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PRODUCING REFINING PIPELINE ENGIN TING

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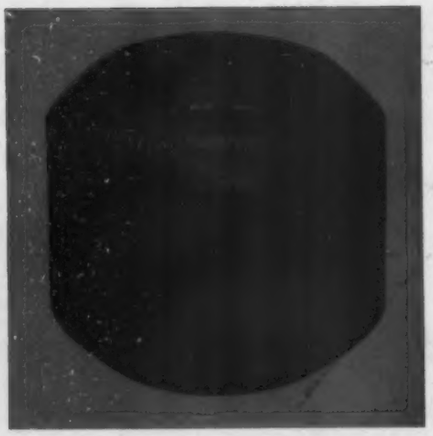

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Creole Petroleum Corporation,
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November 30th, 1930.

Patterson-Ballagh Corporation
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The OIL and GAS JOURNAL

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Relief From Unit Plan Only Temporary

Highest production in 1930, week ending Feb. 22, average daily output 2,699,096 bbls. Peak of U. S. production, week ending Aug. 24, 1929, average 2,975,435 bbls.

Limiting Purchases of Crude Seems to Be More Effective. California Price Increase Delayed by Slow Curtailment

By Andrew M. Rowley

Lowest daily average crude oil production in the United States during 1930 was for week ending Dec. 27 with average output of 2,144,074 bbls.

No more than temporary relief should be expected by the petroleum industry from any plan made effective in East Texas to curtail production which does not have the backing of adequate legislation to make enforceable proration orders. If the political situation is such that corrective legislation cannot be secured, the oil business may have to make up its mind to let the old law of supply and demand solve the problem through the medium of present low prices.

Production in East Texas registered a decline last week despite the large number of new wells completed. Lack of pipe line connections probably contributed largely to this. Low prices and limited facilities for marketing the output seem to be the most effective measures devised to curtail production.

Failure of California operators to hold production down to the figure agreed upon has delayed announcement in that state of higher prices for crude oil. A professional agency is circulating petitions calling for a referendum on the Sharkey Bill recently passed by the legislature. It is felt, however, the situation in that state will be clarified quickly with resultant better prices both for crude oil and gasoline.

Politicians in many areas are trying to throw monkey wrenches into the machinery devised to bring order out of chaos. Prosperity in the oil business is a vital factor not only for the whole nation but for individual state governments. The public is beginning to realize this fact and greater support can be expected by the industry for constructive measures which would bring permanent relief. This permanent relief cannot be obtained as long as selfish interests of a very small minority obstruct efforts of real oil men.

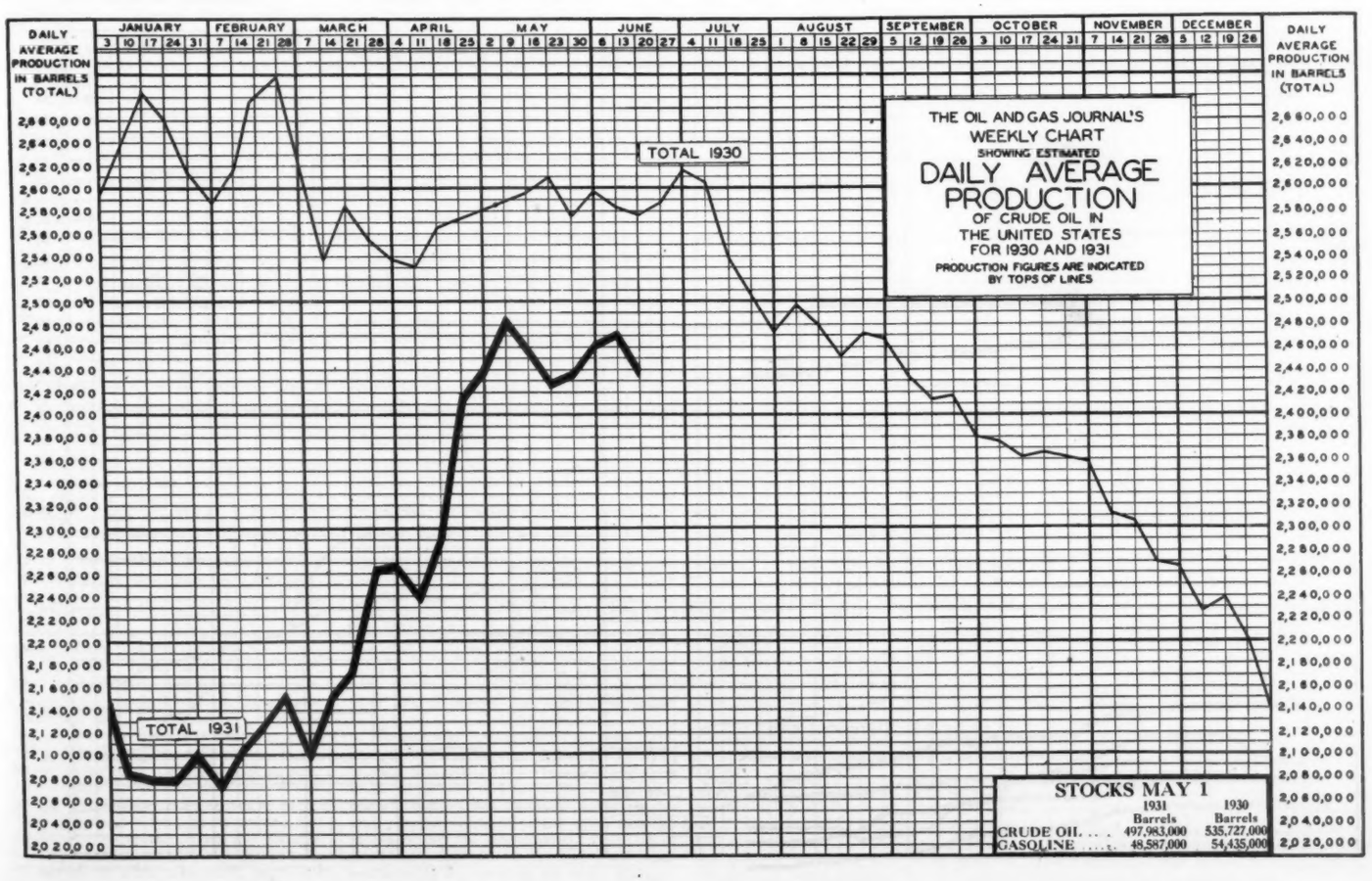
As has been stated before, the situation in East Texas would right itself very quickly if purchases of crude there were curtailed. There is already too much crude oil and gasoline in storage and oil companies can provide for their own requirements from their own production or from oil and gasoline they have in storage.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of crude oil in the United States for week ended June 13 and a comparison with the previous week follows:

	June 13	June 6
Oklahoma—		
Oklahoma City	170,785	174,920
Seminole-St. Louis	149,120	139,615
Remainder of State	237,160	237,605
Total Oklahoma	557,065	552,140
East Texas—		
Kilgore	168,000	165,600
Lathrop	46,700	66,700
Joiner	114,300	119,200
Total East Texas	329,000	351,500
West Texas	210,024	211,236
North Central Texas	80,493	79,408
Texas Panhandle	57,963	60,046
East Central Texas	60,750	56,750
North Louisiana	37,400	37,770
Arkansas	45,345	45,705
Kansas	102,910	106,750
Total Mid-Continent area	1,480,950	1,501,305
Gulf Coast	169,500	171,750
Southwest Texas	58,050	65,750
Eastern	110,000	110,000
Rocky Mountain area	99,353	97,468
California—		
Santa Fe Springs	64,500	69,000
Long Beach	80,500	84,000
Playa Del Rey	29,500	30,000
Elwood	33,000	35,500
Kettleman Hills	55,500	44,000
Remainder of State	262,750	265,000
Total California	525,750	527,500
Total United States	2,443,603	2,473,773

→ **Decrease 30,170 Bbls. Daily** ←



Improvement in Motor Fuel Shipments

Prices Move to Lower Levels. Third Grade in Retail Distribution Factor in Refined Market Trend

By C. O. Willson

Improvement in both domestic and export gasoline buying the past week within the Mid-Continent area did not prevent additional declines in refinery prices but did lend to the hope that prices were at bottom with the possibility an upward price change would get under way before the end of the month.

Practically all the price changes of the week in other products were downward. Buyers, particularly those who purchase from day to day on the spot market, are constantly seeking lower quotations and getting them from a few sellers who are determining the open market price trend. Kerosene prices are fractionally lower and bargain material in heavy fuels, distillates and gas oils continues to be available. Due to the weak refinery market, natural gasolines are having difficulty in maintaining the price position established the first of the month, but up to Tuesday there had not been any declines in quotations. Two refiners report a better movement of all grades of lubricants since the recent reductions.

Better Demand

Market observers are agreed that the actual consumer demand for gasoline in the territory served by Oklahoma and other Mid-Continent refiners is showing a seasonal improvement. In fact a majority of the refiners through their own outlets and regular jobber contracts are absorbing their own output and drawing on their storage and in a few cases it has been necessary to increase crude oil runs to stills.

In this connection the introduction of a third grade of gasoline by a number of refiners in the retail end is a factor in their increased gallonage which has made them independent of the spot market in their gasoline sales. These refiners have made the third grade available through their own outlets and are also furnishing the extra grade to their jobber customers.

The writer has seen reports showing the retail sales of the gasoline (premium, regular and competitive) of several companies and it is not possible to draw any final conclusions as to the relative reception of the three grades by the consumers. The sales are not uniform by areas and sales of individual stations of the same company vary widely. In general, the largest demand for the low priced grade has been in the largest cities of the Middle West and Southwest where the so-called "bootlegger" had obtained a strong foothold, before the larger distributors offered a competitive product. However, even in these cities the sales of the third grade at many stations is relatively small, the bulk of the business being in the regular and premium grades.

One manager of a chain of stations operating in several states, who is also familiar with the operations of other companies estimates that the third grade is averaging around 25 per cent of the total sales at points where it has been introduced by several major companies. Most of this 25 per cent is business that previously went to independent operators of tank car stations and other price cutters. The remainder comes from consumers who previously purchased the premium and regular grade. This operator says there has been considerable shift from the premium to the regular grade and from the regular grade to the third grade. The first shift is no doubt due to the fact that many companies have improved the specifications of their regular grade, especially in antiknock rating so that consumers are getting the service previously obtained by buying premium grades.

Another manager of service stations says the relative quantities of each grade of gasoline sold at service stations is largely a matter of station personnel. If the station attendants are told to push the sale of the third grade, they can easily increase the consumer acceptance. The usual practice is for the station attendant to state that the third grade "is just as good as the regular grade" and the consumer naturally decides to save the 2 or more cents per gallon. At these stations the sale of the third grade often represent from 50 to 75 per cent of the total. In the opposite situation, the attendants take the position that the third grade at

(Continued on Page 119)

REFINED MARKET BAROMETER

Prices on gasoline both for export and domestic movement were reduced during the past week. It is believed that the lower prices on export gasoline at Coastal points will permit companies in the United States to get a larger share of the foreign business than they have in recent months. The domestic demand for gasoline is showing a seasonal increase but the liberal offerings by refiners continue to be reflected in lower prices. Kerosene prices were reduced in several refining centers with a slow movement. No important changes were noted in fuel oils following the price reductions of the previous week. Gas oil weak. Bright stock prices reduced in the Mid-Continent and East with scattered reductions in neutral oils. Wax prices lower where any changes were made.

Mid-Continent—Refinery gasoline and kerosene prices lower. Natural gasolines firm. Fair demand for low cold test fuel oils and gas oils but other grades weak. Slow demand for furnace oils. Lubricants and wax unchanged.

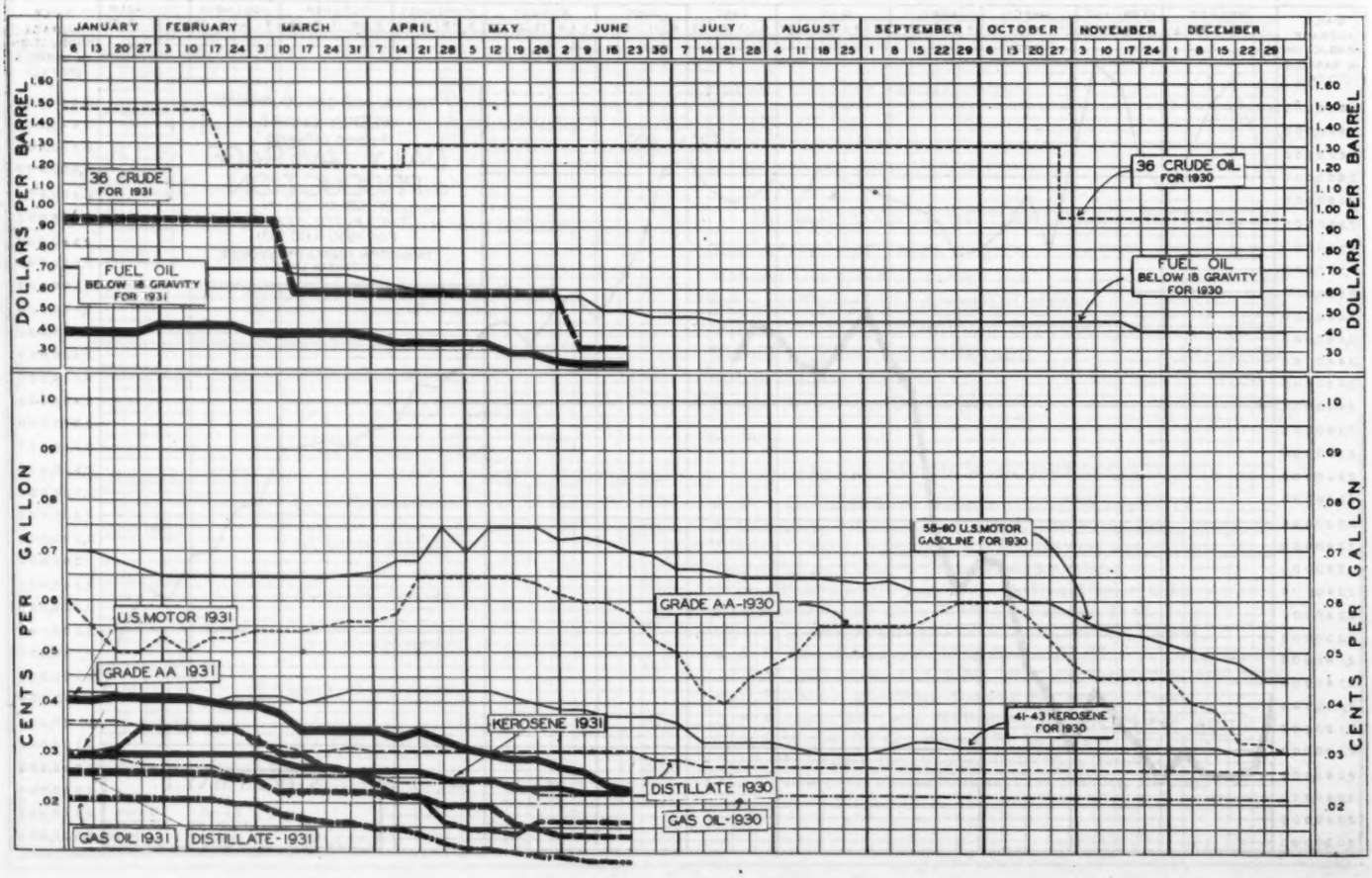
East Coast—Gasoline prices for export and domestic movement reduced. Kerosene slow. Cylinder stock prices lower. Fuel oil market steady following recent reductions. Routine demand for gas oil. Paraffin wax weak.

Chicago—Bad weather slows up gasoline demand and prices lower. Downward trend in fuel oil and gas oil continues. Kerosene dull at lower prices. Fair demand for blending naphtha and natural gasoline.

Gulf Coast—Gasoline prices lower in domestic and export markets. Slow movement of red and pale oils. Fair movement of bunker oils. Gas oils inactive.

Pennsylvania—Refinery gasoline and kerosene prices reduced. Fuel oils and gas oils lower. Bright stock and steam refined stock prices reduced. No change in wax.

California—Expected improvement in refinery gasoline prices failed to materialize. Natural gasoline prices higher.



East Texas Operators Adopt Unit Plan

Agreement Specifies Effective Date as June 26. Other Operators Believe Special Session of Legislature Necessary

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., June 15.—A stabilization plan offered to the operators in the East Texas district at a meeting in Tyler, June 11, was put up for a vote at another meeting in the same city today, and the plan adopted by a vote of 2 to 1. Lease owners, fee owners, royalty owners, company men and independent operators attended the meeting, which was said to be the largest ever held in the newly opened district. R. D. Parker, chief supervisor of the Oil and Gas Division of the Railroad Commission, attended the meeting.

Many are for trying the plan while others are unalterably opposed to it, saying that it cannot be made effective and permanent. Those opposing it wish to have a special session of the legislature called to put through legislation to strengthen the present conservation laws. The new plan, which was devised by Tom E. Cranfill, president of the Independent Petroleum Association of Texas, asks that the East Texas producing areas be divided into 20-acre units, each unit being allowed to produce 300 bbls. per day regardless of the number of wells on each 20 acres, or the number of tracts into which the 20 acres may be divided. Each well would be given a pro rata share of the daily allowable. There are in the neighborhood of around 500 or 600 producing 20-acre subdivisions in the district at the present time which would make the daily allowable between 150,000 and 180,000 bbls. per day, while the proration allowable as set by the Railroad Commission is 160,000 bbls. per day. As more wells are drilled, proving up more units, production would be increased by flush producers, but as wells now on production are rapidly declining in production, there would be the tendency to help balance the production level, although at the present time flush producers are being brought in at the rate of about 100 each week. This, however, will no doubt be changed at once, and has already shown a difference this week with only 85 completions while last week there were 108 in the district, due to some of the purchasing companies withdrawing postings a week ago, and the price of the crude in the district selling for an average of around 15 cents per barrel, with purchasers turning down offers of oil at this price.

The Cranfill plan as adopted at the Tyler meeting specifies that it is to become effective June 26. The Railroad Commission does not hold a hearing on the East Texas district until June 29.

Arbitration Committee

The plan provides that an arbitration committee of several members be appointed by the operators, companies and associations to meet and discuss problems which would present themselves from time to time. The East Texas Land, Lease and Royalty Owners Association has already appointed A. J. Deason of Henderson and Fred Stuckey of Longview as its two members for this committee. The East Texas Producers Association announced that it would appoint J. F. Lucey, Major Parten of the Woodley Petroleum Co., or Burt Shaw, all of whom are independent operators, as two members to represent it on the committee. The major companies, which have not agreed to adopt the plan, have not appointed any representatives on the committee.

This is the first plan to have been offered for the relief of the badly muddled East Texas situation, except for the unitization plan of R. R. Penn, read at the American Petroleum Institute meeting in Dallas June 3, and although the plan may not be entirely feasible in its present form, it gives a basis upon which something tangible may be finally worked out to save many of the operators from bankruptcy and restore better prices in the district. Legislation would probably consume many weeks before being enforced in the district, during which time conditions would only be growing worse, whereas some plan which can be tried immediately might be put into effect quickly.

In the meantime, while forces continue to oppose each other's plans for aiding the district and the entire situation in the State, oil continues to be sold at sacrificial prices, and it now appears as if many operators and purchasing companies would start a steel storage campaign to build millions of barrels of storage in the district and on the Gulf Coast to hold the oil which is being "purchased for a song." The Magnolia Petroleum Co. is already erecting five additional 80,000-bbl. steel tanks at Center station in Shelby County, into which Gregg and Rusk County crude will be pumped. Cranfill & Reynolds are reported to have leased 1,250,000 bbls. of steel storage from the Continental Oil Co. at Texas City and have practically filled all this storage already. The British-American Oil Co. is preparing to erect two 80,000-bbl. tanks on its Kangerga lease in the Joiner Pool, and will purchase the cheap oil in that area. Other reports have been circulated to the effect that other companies would also erect many 50,000 and 80,000-bbl. tanks in the district to take advantage of the opportunity to fill up with high gravity crude for at least 15 cents per barrel, and probably 10 cents per barrel.

Building More Pipe Lines

More major pipe lines are now being

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EMERGENCY COMMITTEE'S STATEMENT

DALLAS, Tex., June 16.—At a meeting of the Texas Oil Emergency Committee here this morning the following statement was released by W. L. Todd, Dallas; Charles F. Roeser, Fort Worth; and Ed Landreth, Fort Worth, for the committee:

"The Texas Oil Emergency Committee is agreeable to sitting down and trying to work out any plan that can be made effective immediately to alleviate present distressed conditions, but this is not to be construed in any way as meaning that they will relax in their efforts to get legislation to uphold the orders of the Railroad Commission and to make the enforcement of the rules and regulation valid and effective..

"Relative to the plan proposed by Tom Cranfill and others we have been advised by attorneys competent to advise in matters of this kind that from what they have seen of the Cranfill plan it violates the laws of this State in so many ways that it is doubtful that the attorney general will permit the Railroad Commission to issue an order. This committee will co-operate on any plan that the Railroad Commission will issue orders on and will be adhered to one hundred per cent by the so-called violators and other producers. It is our understanding from the major companies that they will not buy or run oil for their own account nor will they co-operate unless it is under a valid and legal order of the Railroad Commission."

Commission Reapproves Ethics Code

W. R. Boyd, Jr., Pleased by Final Action of Government Trade Body. Expects Support From Industry

NEW YORK, June 16.—The Federal Trade Commission has informed the American Petroleum Institute that on June 12, 1931, it took final action representing substantial reapproval of the trades practices rules embodied in the petroleum industry's National Code of Practices for Marketing Refined Petroleum Products. W. R. Boyd, Jr., executive vice president of the institute, which sponsored the code, has expressed the opinion that the action of the commission undoubtedly will be eminently satisfactory and agreeable to the marketing branch of the industry.

Mr. Boyd said: "It will be remembered that the Federal Trade Commission, on July 25, 1929, promulgated 21 trade practice conference rules which were accepted by 16,000 marketers and which the petroleum industry adopted and put into effect as its National Code of Practices for Marketing Refined Petroleum Products. On February 3, 1931, we were notified that the commission had withdrawn its approval of 18 of those rules, had rewritten two and left intact only one of the original rules.

"The marketing branch of the industry met in Chicago early in March to consider the situation and determine what the petroleum industry should do about it. It was the consensus of opinion then that if an adequate explanation of each of the 21 rules and a thorough analysis of the practices and methods which each trade practice rule sought to condemn and prevent could be made clear to the members of the commission, that body would not hesitate to reverse itself and reaffirm its approval of the rules. Events now prove that this opinion was correct, for the final action is a substantial reapproval of the original rules. Actually what has happened is this:

"Rules 1, 3, 5 and 6 of Group 1 have been reapproved without change. Rule 2, Group 1, has been reapproved with the insertion of one word, but transferred to Group 2. Rules 4 and 7 have been rewritten to conform to the commission's standard form rules relating to breaking contracts and to selling below cost to injure a competitor.

Reapproved Without Change

"Preceding Group 2, Rules 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21, all of which have been reapproved without change except for the insertion of one word in Rule 17, the commission inserted a preamble reading as follows:

" 'The following rules of Group 2 are adopted by the conference and accepted by the Federal Trade Commission as expressions of the trade. The industry and each person signing these rules agree that said rules shall not be carried out in such a manner or used in any way so as to substantially lessen competition or unduly restrain trade, or tend to create a monopoly.'

"I regard the commission's action as constructive and eminently satisfactory and believe that it undoubtedly will be entirely agreeable and acceptable to the marketing branch of the petroleum industry. I am recommending to the board of directors of the American Petroleum Institute and to the industry generally the prompt approval and acceptance of the revised rules because to all intents, purposes and effects they are no different from the original ones.

"I believe the trade practice conference system a constructive one for the commission to foster and maintain and that it is helpful to an industry in ridding itself of many admittedly unfair, unethical and uneconomic competitive practices. In our discussions with members of the commission we found them keenly alive to the value of the trade practice conference system to the industry of the country, and desirous of doing everything helpful they could, consistent, of course, with their individual conceptions of the particular rules and of the law under which they function and must operate.

"Each rule of the petroleum industry's code is designed by co-operative action to eliminate, in the interest of both the consumer and the industry, some admittedly unfair, unethical and uneconomic practices. It appears to me that when the commission understood clearly the purpose of each rule and became convinced that no contemplated violation of existing law was involved or authorized by approval of our rules, the objection of the majority was removed and that action then followed reinstating the rules with practically no substantial modification.

"I believe the reconsideration, review, and now the final substantial reapproval of the petroleum rules by the commission will be a tremendously helpful factor in securing better understanding and closer observance of these rules by the more than 16,000 marketers of refined petroleum products who agreed originally with the commission to accept them."

Adjustment Potentials for Yates Pool

Report of Engineering Committee for That Area Giving Interesting Facts Concerning Method of Securing Well Capacities

The report prepared by the engineering committee of the Yates Pool makes the following recommendations:

1. That the proposed method be applied for proration purposes until such a time as a better method can be developed.
2. That the proration office be furnished with standardized equipment for use in making future tests.
3. That future tests be run by the operating company, supervised by the proration office and witnessed by the offset company if so desired.
4. That future tests be run to the common datum of plus 1,300 feet where possible, thus avoiding the necessity for corrections.
5. That pressure tests be made and potentials adjusted once yearly.

Introduction

This report is supplementary to the report of the Yates Pool Engineering Committee dated November 25, 1930.

It has been long accepted that the determination of potentials by open flow testing is inadvisable for many reasons. Attempts were made to develop the pressure oil rate method for determining potentials but the efforts were discontinued when it became obvious that the method was inapplicable from an economic standpoint.

In that report it was recommended that the last proration open flow tests be reduced in direct proportion to the decline in top-of-lime pressures. Further study of the method indicated that well potentials should be adjusted to formation pressures observed at a common datum rather than at the top of the lime.

Therefore, the calculations and results contained in this report are on the following basis:

1. That 700 pounds was the original average reservoir pressure.
2. That 1,300 feet above sea level is an average reservoir datum.

Method of Obtaining Datum

Reservoir pressures were obtained under as nearly uniform conditions as possible in order that all tests would be comparative.

At the beginning of these tests equipment had to be developed to determine the pressures, and the differences in size of flow strings made necessary the use of different types of equipment.

Whenever possible depth recorders were used, which were of two types; (1) The plunger type recorder, and (2) a modified volume chamber bottom-hole sampler. In other cases where the flow string was less than 2 inches in diameter a compressor was used.

The well to be tested was shut in for approximately 24 hours during which time, as indicated by the well head pressure, the pressure at the bottom of the hole becomes equal to that within the reservoir in the immediate vicinity of the well bore. Since wells in the Yates Pool have a wide range of penetration into the lime it was originally decided to observe the pressures at the "top of the lime." This procedure was followed except where the compressor was used. In the latter case the pressures were necessarily determined at the bottom of the tubing. The pressures were then corrected to a plus 1,300-foot elevation as explained under "Calculations" below.

Compressor Method

In wells with tubing smaller than 2 inches in diameter, the shut-in bottom-hole pressure was determined by injecting compressed gas into the tubing. The rate of gas input into the well varied from 10 to 15 cubic feet per minute and at such a low rate of flow, pressure loss due to frictional resistance and the velocity head obviously was negligible. The work performed by the injected gas was that of depressing the fluid level to the bottom of the tubing.

During the tests pressures were recorded on both casing and tubing. When the gas was being injected into the tubing, pressure on the casing gradually declined while the tubing pressure gradually increased as the fluid level in the tubing was depressed, reaching the maximum when the fluid level receded to the bottom of the tubing. At that point the pressure indicated on the tubing gauge plus the static pressure of the column of gas in the tubing is equal to the reservoir pressure at that depth.

Pressure Recorder Method

As described above, the well was allowed to settle for approximately 24 hours. With the master gate closed the recorder was placed in a lubricator and suspended on a Halliburton measuring line. The pressure was then equalized between well and lubricator and the recorder lowered to the top of the lime where it was allowed to remain for a few minutes. It was then hoisted into the lubricator, pressure in the lubricator released and the instrument removed for pressure reading.

Pressure readings obtained with the plunger type recorder requires no calculations except for interpretation of the chart by a calibration curve. Pressure determinations with the volume chamber bottom-hole sampler require correction for temperature and the pressure necessary to open the inlet valve of the instrument (determined experimentally). This is illustrated by the following example:

Pressure at top of lime (observed)	600 lbs./sq.in.
Temperature at top of lime	79° F.
Temperature at which reading is taken	60° F.
Pressure required to open valve	5 lbs./sq.in.
$600 \times \frac{(460+79)}{(460+60)}$	622 lbs./sq.in.
Pressure required to open valve	5 lbs./sq.in.
Actual pressure at top of lime	627 lbs./sq.in.

Following this procedure shut-in reservoir pressure was determined on 315 of the 401 producing wells. In a few cases tests could not be made because of equipment left in the hole or the condition of surface equipment. The pressures of this class of wells were assumed to be those of averaged pressure of adjacent wells. No pressure determinations were made on wells which were unable to make their unit allowance since the reduction of pressure would not affect their proration allowance. Pressure determinations made on wells in the special concession area were not applied to reduction of potentials because the committee did not anticipate the elimination of special allowances and because no potentials were taken on most of those wells.

Calculations

The elevation of the top of the lime in the Yates Field varies from 1,100 to 1,500 feet above sea level. Under static conditions the well located at the 1,100-foot elevation would have a pressure of 145 pounds per square inch more than a well at the 1,500-foot elevation due to a 400-foot hydrostatic head. Without adjustment for this difference in elevation, pressures observed at the top of the lime in wells high on the structure would necessarily be low, in consequence those wells would be unduly penalized. Likewise, wells located low on the structure would be given undue advantages. Cognizant of these facts, the engineering committee adopted the intermediate 1,300-foot contour as the common datum to which to correct the observed pressures. This minimizes any loss or gain due to corrections, or due to structural position.

Observation by various field engineers in 1927 indicated that the average reservoir pressure was approximately 700 pounds per square inch. Therefore, this pressure is used in the following calculations as the original pressure at 1,300 feet elevation. The absolute accuracy of the original pressure is not vital to these calculations because any possible error is reflected proportionately to all operators.

Correcting Observed Pressures

As previously stated, most of the pressures in the field had been taken at the top of the lime which may be above or below the 1,300-foot datum. Therefore, some method of correction to this datum became necessary.

It is evident that before the reservoir was drilled there existed an original elevation pressure gradient. This was probably similar to the present gradient that can so clearly be seen to exist; however, there is no series of original tests by which the value of the gradient could be definitely established. In the further study of this problem a means of establishing this gradient may be found. If the original elevation pressure gradient can be established the original pressure in any well at any desired datum can be read directly from a line plotted with that slope. This original gradient could be plotted on the same graph with the present pressure tests and, by projection, the ratio of pressure decline could

(Continued on Page 116)

ENGINEERS REACH IMPORTANT CONCLUSIONS

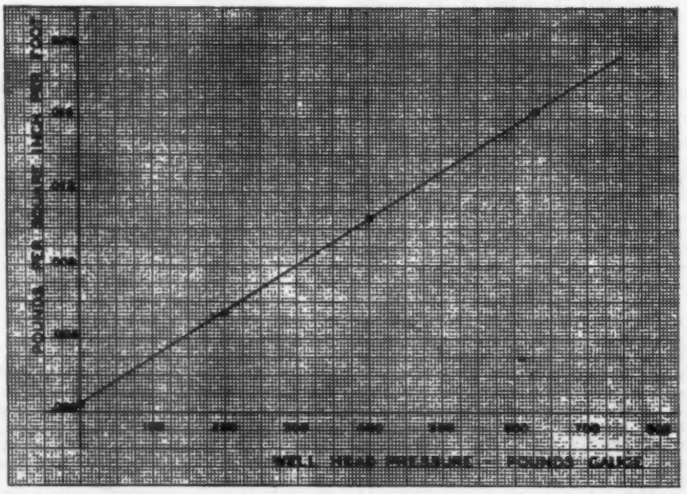
Through the courtesy of R. W. Richmond, umpire for the Yates Field, Pecos County, Texas, The Oil and Gas Journal is able to present a complete copy of the recommendations of the engineering committee, composed of Dale Nix, the California Co.; E. A. Crites, Gulf Production Co.; J. W. Graybeal, Humble Oil & Refining Co.; E. N. Van Duzee, Shell Petroleum Corp.; D. G. Safford, Stanolind Oil & Gas Co., and P. P. Gregory, proration petroleum engineer, as submitted to John R. Suman, chairman. The report is dated May 30, 1931, and contains much valuable engineering data dealing with methods of securing well potentials without open flow.

SUMMARY OF LOSS OR GAIN BY COMPANIES

Company—	Total allowance— Present	Total allowance— Proposed	Ttl. bbls.— Loss	Ttl. bbls.— Gain	Per cent— Loss	Per cent— Gain
California	*8,975	9,186	0	*213	0	1.69
Cosby	450	450	0	0	0	0
Gulf	9,801	9,824	0	23	0	0.23
Humble	1,563	1,563	0	0	0	0
Stanolind	2,543	2,550	0	7	0	0.28
Stanolind-Continental	3,229	3,241	0	12	0	0.37
Continental	380	377	3	0	0.79	0
Mid-Kansas	33,332	33,219	113	0	0.34	0
Grayburg	375	375	0	0	0	0
Plymouth	33	33	0	0	0	0
Phillips	1,422	1,407	15	0	1.05	0
Shell	3,320	3,275	45	0	1.35	0
Savoy	450	450	0	0	0	0
Simms	3,925	3,846	79	0	2.01	0
Skelly	109	109	0	0	0	0
Cardinal	30	30	0	0	0	0
Kirby-Edson	65	65	0	0	0	0
Total	70,000	70,000	255	255		

Total reduction in field total potential ..... 11.77 per cent
Total reduction in field average potential ..... 12.14 per cent

*Actual gain was 153 bbls. because Smith well, Section 1-21-3, was not included in last proration statement (well being worked over) and its allowance of 60 bbls. was distributed over the field.



Hydrostatic gas pressure vs. well head pressure.

Plan Gasoline Lines for California

Next 12 Months Probably Will See One or More Main Trunk Lines Constructed. Need Other Crude Oil Lines Also

By L. P. Stockman

Operators did not find it necessary to construct any additional gasoline pipe lines in California during the past year but it is quite likely that one or more main trunks will be added to present facilities before the expiration of another 12 months. These new lines will be required to handle anticipated production expected to result from development work already well under way in the North dome of Kettleman Hills and in the Lost Hills-Belridge district. There is a strong probability, however, that operators interested in these areas may interchange crude oil and gasoline as there is a very definite trend to avoid overconstruction of both tankage and pipe line facilities in keeping with economies expected to result from unit development at Kettleman Hills. There are two main trunk lines out of Kettleman Hills at the present time in addition to a crude oil gathering line which hooks up with facilities previously constructed.

The first main trunk laid out of Kettleman Hills was constructed by the Standard Oil Co. It extends from Kettleman City to tidewater facilities at Estero Bay in San Luis Obispo County, where a submarine pipe line enables tankers to load without pulling up to a dock. The second line, installed by the Union Oil Co., extends from Kettleman Hills to tidewater at Port San Luis in San Obispo County. Both of these are white lines but the future status of the Standard's line may later be changed. The Standard has not yet developed any block oil at Kettleman Hills and consequently the line is still unstained as the only crude oil transported to date has been oil from the Elliott zone, which is practically colorless and more or less of a condensate instead of a normal crude oil. The Union's line is strictly a white line as nothing but gasoline has been moved through it.

Will Enlarge Facilities Later

In addition to its white line, the Union has a crude oil gathering line which extends from the Superior's Huffman lease in the extreme west end of Kettleman Hills to Tar Canyon, where it connects up with the company's Producers Pipe Line, constructed in 1906. It is quite evident that the Union is in a much better position than the Standard with respect to transportation facilities out of Kettleman Hills, as it can move both crude oil and natural gasoline. The Standard has not experienced any transportation difficulties up to the present but will be obliged to make additional preparations in the near future as it is expected to develop black oil production at Kettleman Hills within a very short time. When the Standard is faced with the necessity of moving both crude oil and natural gasoline out of Kettleman Hills it may either lay a new crude oil pipe line 30 miles north to Coalinga or make arrangements to have the Union transport its Kettleman Hills crude oil over to the seacoast at Port San Luis through the latter's Producers Transportation system on the basis of a nominal cost per barrel. This will eliminate the construction of a new pipe line at least for the present. At a later date, of course, complete facilities will be provided for the transportation of crude oil and gasoline.

The General Petroleum, in September, 1930, secured rights of way from Kettleman Hills to tidewater and purchased 586 acres of land between Morro Bay and Cayucos in San Luis Obispo County so that everything would be in readiness when it became necessary to lay a pipe line westward to tidewater. This pipe line when laid will probably be for the transportation of natural gasoline exclusively, although it is not at all improbable that a crude oil line will also be constructed at the same time. For the present, the General Petroleum expects to utilize its existing pipe line from Kettleman Hills to Lost Hills, where it ties in with the company's original pipe line system which has its southern terminal in Los Angeles. Other operators at Kettleman Hills will ultimately lay additional pipe lines for the transportation of Kettleman crude oil and gasoline, but it is quite likely that they will find it more advantageous for the present to pay nominal transportation costs to those already having lines in operation. This is especially true of the Richfield Oil Co., Shell and The Texas Company, which do not have ample facilities at present.

Has Numerous Gasoline Lines

In addition to the intricate network of gasoline pipe lines in the Los Angeles Basin area, California has three major trunk lines for the transportation of gasoline aggregating 259½ miles in length. The first gasoline line of importance to be laid in California was the Shell's 97½-mile Ventura Avenue to Wilmington project completed early in 1928. Late in 1929 the Standard completed a 74-mile white line from Kettleman Hills to Estero Bay and, while it has also been used for the transportation of Kettleman crude, it is still a white line as the Standard's light oil production in the North dome approximates 60 degrees in gravity and is more of a condensate than a normal dark crude. When the Standard develops black oil production from the Ochsner zone this line will become a crude oil line if it is used for the transportation of this oil. It is logical to assume, however, that the Standard will preserve this installation as a white line and make other arrangements for the transportation of its expected black oil production. The last major gasoline pipe line laid in California was the Union's 88-mile installation extending from Kettleman Hills to tidewater at Avila in San Luis Obispo County.

The Shell's Ventura-Wilmington gasoline pipe line paid for itself in less than a year due to a substantial reduction in evaporation losses and the elimination of a long, costly railroad haul. The Union and Standard's gasoline lines from Kettleman Hills to tidewater are likewise expected to result in substantial savings in addition to providing uninterrupted movement, a thing which would be almost impossible to do by railroad haul because of the large volume expected to be developed at Kettleman Hills.

Need Additional Lines

Transportation of gasoline and natural gasoline by pipe line has shown a substantial increase during the past few years in California but has not yet reached its maximum development due to the fact that most recent prolific fields have been located in a relatively small congested area in close proximity to marketing and refining centers. With Kettleman Hills destined to become a major factor in state production and expected to be the dominating influence for several years to come it is logical to assume that additional crude oil and gasoline pipe lines will be laid out of that district within the next two years. Lost Hills and Belridge may also become important factors in the production of light oil and, if the Temblor formation in these areas proves as prolific as that found in Kettleman Hills, additional gasoline pipe lines will be required to move this commodity to consuming and refining centers. These fields are all located in the San Joaquin Basin and the crude oil and natural gasoline must be moved either northward to San Francisco or south to Los Angeles harbor for refining and distribution.

Pipe line transportation of both commercial and natural gasoline is destined to become of greater importance in California within the next few years due to its inherent advantages from an efficiency standpoint and also because development work in the San Joaquin Basin will make it obligatory for refiners to install pipe lines in order to cope with the substantial production to be secured. Existing facilities out of Kettleman Hills will prove ample for a short time but if the production of this field is built up to the present goal of 100,000 bbls. per day, additional lines will be required. It is estimated that Kettleman Hills will be doing at least 50,000 bbls. of crude oil and 25,000 bbls. of natural gasoline per day within the next six months. The ratio of natural gasoline to crude oil may vary one way or the other depending upon how many wells are permitted to produce from the Elliott zone and the manner in which future producers are finished in the deep Ochsner zone. It is the present intention to case off the Elliott high pressure gas zone, in which event natural gasoline production will be considerably smaller than if this horizon was allowed to produce. Contractual obligations between the Milham Exploration Co. and the Pacific Gas & Electric Co. may result in the completion of one or more wells in the Elliott zone at some future date, although this depends upon the ability of the former to supply the latter sufficient natural gas for its operations from current production in the Ochsner zone. In any event, Kettleman Hills will produce a substantial quantity of both crude oil and natural gasoline during the next several years.

Union's Gasoline Line

The Union's gasoline pipe line from Kettleman Hills to tidewater traverses some very rugged country in addition to crossing a major earthquake fault zone and, while this presented a number of perplexing problems from both a transportation and construction standpoint, they were all satisfactorily worked out. This line, 88 miles long, was completed in a little over seven weeks from the time work was first started at a cost of $700,000. This line connects up with a 6-inch line laid late in 1929 from Kettleman Hills to Tar Canyon, a pump station on the Union's main pipe line system, which serves all San Joaquin Valley fields and terminates at Port San Luis, so that to all intents and purposes the gasoline line runs directly from Kettleman Hills to tidewater. From Tar Canyon the Union's gasoline line parallels the company's 8-inch crude oil line from the Coalinga Field to Junction station, a distance of 8½ miles. From Junction it swings up through Cottonwood Pass, running side by side for 18 miles with the Standard's Kettleman pipe line which extends from Kettleman Hills to Estero Bay, a distance of 74 miles. A little over 4½ miles east of Shandon pump station the route of the new line merges with the Union's existing crude oil facilities, which consist of two crude oil lines, and parallels this old system to its destination from Shandon station all the way to Avila except that it swings around the city of San Luis Obispo instead of running through it as do the crude oil lines.

Shell Was Pioneer

The Shell Oil Co. pioneered the transportation of natural gasoline by pipe line in California when it laid a 97½-mile welded line from Ventura to Los Angeles in 1928. The construction of such a project was a radical departure at that time from ordinary practice and it was therefore necessary to pioneer pressure loss mathematics in designing the line before undertaking actual construction. Williams and Hazan's formula was used in determining the pressure losses and the differential in specific gravity between water and gasoline applied to the problem as a basis of arriving at the friction pressure loss. The elevation at the intake or Ventura Avenue end of the line is 500 feet above sea level and the outlet or end at Wilmington 25 feet. In level country this drop in elevation could be used to advantage but in the construction of the Shell's natural gas gasoline line two mountain ranges were crossed as part of the country traversed is rather hilly.

The Standard Oil Co. was the first concern to construct a main trunk line out of Kettleman Hills and this installation, completed December 25, 1929, terminates at Estero Bay in San Luis Obispo County. It is a 10-inch welded job and constructed of heavy seamless pipe capable of sustaining an operating pressure of 1,000 pounds. It has a rated capacity of 35,000 bbls. per day but can be pushed considerably higher than this if necessary. Much of the route is through moderately rolling country where no unusual pipe lining problems are encountered, although in crossing the Kettleman Hills, Pyramid Hills and Coast Range Mountains west of Atascadero some fairly rough country was encountered. Soil surveys along the right of way indicate a variety of conditions although much of the line runs through soil which appears quite noncorrosive and therefore permits the use of unprotected pipe. Across several of the valleys soil conditions appear to warrant the application of specially wrapped asphaltic treatment commonly used in California. In the Cholane Valley there is a stretch of very severe alkali and the pipe has been encased in a redwood box filled with asphalt. A terminal tank farm was constructed at tidewater at a slight elevation on some hills just back of the sea coast and this was connected with a 16-inch submarine pipe line which extends out into Estero Bay for a distance of 3,000 feet, permitting easy accessibility to tankers.

Construction work on 12-inch oil line from Oklahoma into Kansas.

Eliminating Hazards of Sand Wells

Methods Employed by One Large Company at Producer Near Business Section of Oklahoma City of Interest to Industry

By L. G. E. Bignell
Petroleum Engineering Editor

Any high pressure well that produces sand along with oil and gas may be considered as a potential hazard because of the cutting ability of this sand when driven upward in the flow string and through the various fittings and connections at the well head. The speed with which this combination of sand, oil and gas will cut through high grade fittings, break its way out of modern well casing and wear holes in the walls of special heads and oil and gas separators is something that must be seen to be fully appreciated.

To eliminate sand troubles in its Wilcox sand well in the Oklahoma City Field, the Empire Companies has set 180 feet of screen with an opening of .012 inch at the bottom of its No. 1 Refinery Site, completed last February on the company's property located within 1,900 feet of the M.-K.-T. railway depot on Reno Avenue and within a half mile of the heart of the downtown business section.

The casing record of this well is as follows:

291 feet of 16-inch, 70-pound.
5,590 feet of 9⅝-inch, 40-pound.
6,293 feet of 7-inch, 24-pound.
6,262 feet of 5-inch, 17-pound.
180 feet of .012-inch mesh screen pipe on bottom of 5-inch string of casing.

Screen Section

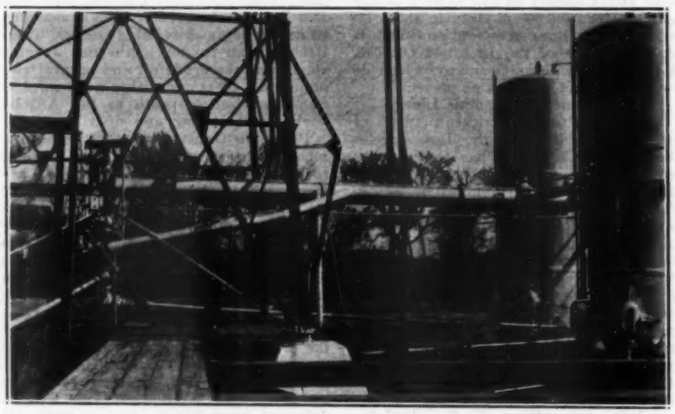
The screen section is part of the flow string and there is a pocket drilled into the shale below the bottom of the screen which serves as a sump for the collection of any sand that may flow from the formation with the oil.

In the shoe on the bottom of the screen pipe there are installed two back-pressure valves that are closed. The flow of oil and gas must be through the screen openings. With this type of installation the area of discharge between the walls of the hole in the producing formation and the outside of the 5-inch screen forms an annular space that has less capacity as a reservoir than there would be if the bottom of the hole was left open, and this condition will cause the oil and gas to flow from the sands at lower velocity than with the open hole practice and by this decrease in velocity of flow it is found that the amount of sand washed from the formation is materially reduced.

If sand accumulates outside of the screen it is possible to run a string of tubing inside the 5-inch flow string and set it on the special joint made for that purpose in the back pressure valve assembly. When the tubing is in place water can be pumped through it and will pass out of the bottom of the screen pipe and then upward in the annular space between screen and walls of the hole and on into the open end of the 7-inch casing and to the surface.

As the velocity of the upstream current between the walls of the hole and the outside of the screen will be relatively high the sand and shale accumulated will be carried upward and as the annular space between outside of 5-inch string and inside of 7-inch casing is also small this debris when once in motion should be carried to the casinghead and discharged from the well.

The well was completed by the washing method. When a well is completed and all pipe set it will not produce until the heavy rotary mud has been removed from the hole. Some drillers bail down the fluid column until it is low enough to reduce the pressure on the producing formation and will no longer hold the gas and oil in the well and the balance of the mud is then blown out. The washing method requires that clear water be pumped into the hole to replace the heavy mud and in this way the weight of the fluid column is reduced until the formation pressure can produce the well.



Lines from christmas tree to separators on Empire Oil & Refining Co.'s No. 1 Refinery Site well, Oklahoma City Pool.

Washing in method is considered better practice in this Wilcox sand area because the operations are under control at all times and when No. 1 Refinery Site well of the Empire Companies was finished the only visible signs of progress was the degree of clearness of the fluid washed from the hole which gradually changed from heavy mud to clear water.

Initial Production Reduced

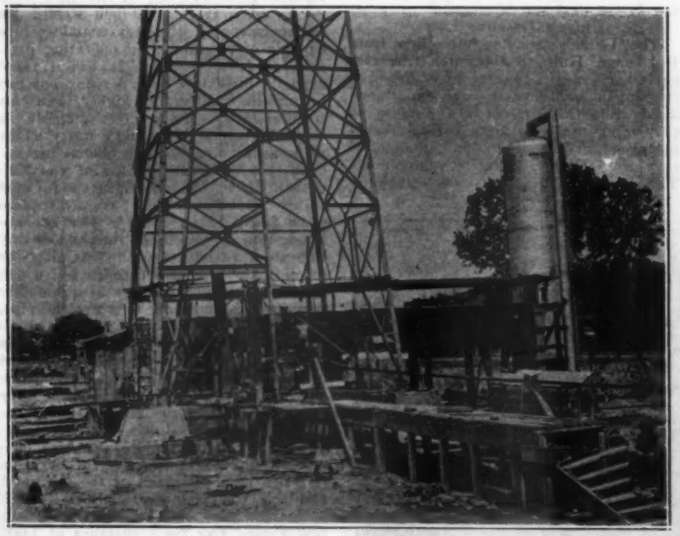
This well came in for an estimated daily production in excess of 20,000 bbls. and has been produced to capacity under control several times since February. The cost of protection in handling the well was obtained for an additional expense of only $10,000, representing an expenditure of about 7½ per cent of the well's total cost. This expense is insignificant compared with the damage which might result from a well of this character not brought in or produced under full control. Had the well been completed and produced in the same manner as other wells in this area, the potential production would have been around 50,000 bbls. per day. The Empire Companies have sacrificed both potential and expense for the sake of added safety in handling such a well close to the residence and business portion of Oklahoma City.

It is reported that all of the other wells recently completed in this area and some of them nearer the business section of Oklahoma City than No. 1 Refinery Site well of the Empire Companies have shown definite effect of sand cutting on connections after their initial 30-minute open-flow test for the purpose of securing potentials.

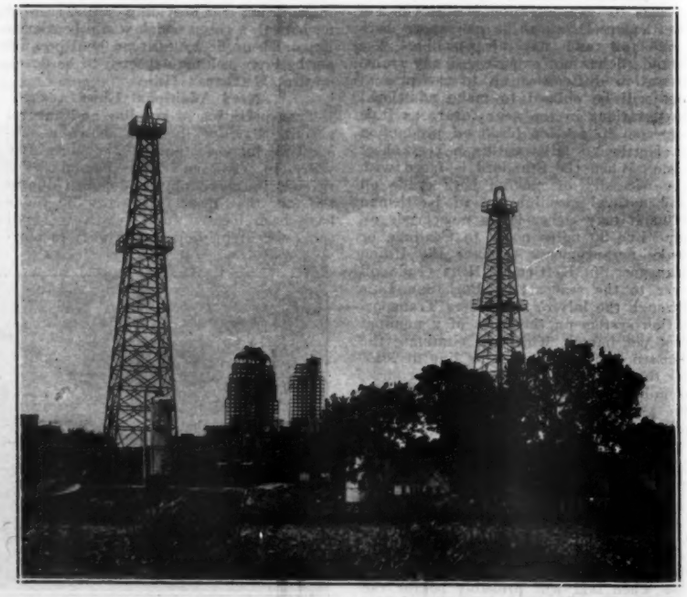
These wells have heavy fittings and gates at the well-head, but owing to the fact that equipment has not been provided for keeping the sand back in the hole the fittings have been damaged. Operators consider such hazards as a regular part of securing such production and feel that they are repaid for the cost of extra fittings because they have gained 50 to 100 per cent higher potential rating for their wells.

Regardless of the fittings at the upper end of the well there will always be a hazard there if the oil is permitted to flow as rapidly as possible from the sands into the bottom of the hole. Such sudden release of pressures in these formations will break down the softer portions of the sands and the oil and gas will carry this material to the surface.

As these operators have in mind primarily the securing of as great a potential as possible they try to secure the highest possible velocity of discharge into the oil and gas separator or separators, which results in the valves and fittings being badly cut. After the first test the



New type hookup for Oklahoma City wells using one oil and gas separator, Hudspeth Oil Co.'s No. 1 Rinehart Donovan well, completed May 26.



Proximity of producing wells and new office buildings in the Oklahoma City Field. Left hand skyscraper, First National Bank Building, other Ramsay Tower.

upper connections, consisting of two heavy-duty valves and fittings, should be removed for inspection and repaired if necessary and the well again placed in condition to produce.

When the well is later produced it is not permitted to take its full volume of oil as registered by the initial test, except for potential tests, so the hazard is considerably reduced, but if one of these wells should break loose during the initial or subsequent potential flow period the damages would be very serious.

Fire Hazards Great

With the recent fire in the Gladewater Field, Texas, at Sinclair Oil & Gas Co.'s No. 1 Cole still fresh in the minds of the oil fraternity, it is not hard to picture the damage that might be done to the well and surrounding property if one of these large Wilcox sand producers got out of control.

They are located, as stated above, west of the Empire Companies' No. 1 Refinery Site, which is just 1,900 feet from the M.-K.-T. railway depot, and that section of the city is occupied by large warehouses and factories. To the west the Santa Fe railway has its main line and the Rock Island railway right of way is to the south.

If a Wilcox sand well got on fire and required treatment such as applied to No. 1 Cole in East Texas, where 200 pounds of gelatine were discharged to blow out the fire, every window in the business section of Oklahoma City would be shattered. This is a minor consideration, however, compared to the fire hazard that would exist from oil being sprayed over the surrounding buildings in the business district.

Making still further comparison with the East Texas fire, where the well was located in the center of a 40-acre clearing, but took nine days to subdue largely because of fire that persisted in burning in tree stumps until finally they had to be uprooted and the ground cleared, as well as the surrounding woods, if these large warehouse buildings caught on fire it would be difficult to fight and before the well could be shot out it would be necessary to be absolutely certain that every vestige of fire was smothered, because if there was even a few sparks or smoldering embers left the oil and gas might be again ignited after the shot at the well, for as soon as the fire was snuffed out there gas and oil would be liberated to spray the countryside again in vast quantities.

These hazards may seem overdrawn to the layman, but to experienced oil operators they are too well known to be questioned, and in the Oklahoma City Pool luck or some other quality of chance has favored the operators. There have been several wells get out of control close to the city, but they have not caught on fire. If this type of accident is repeated many more times by the same law of chance conditions to cause a catastrophe will be introduced, and just how serious the fire will be no one can predict, and to even contemplate the possibilities is unpleasant.

Hazards Can Be Reduced

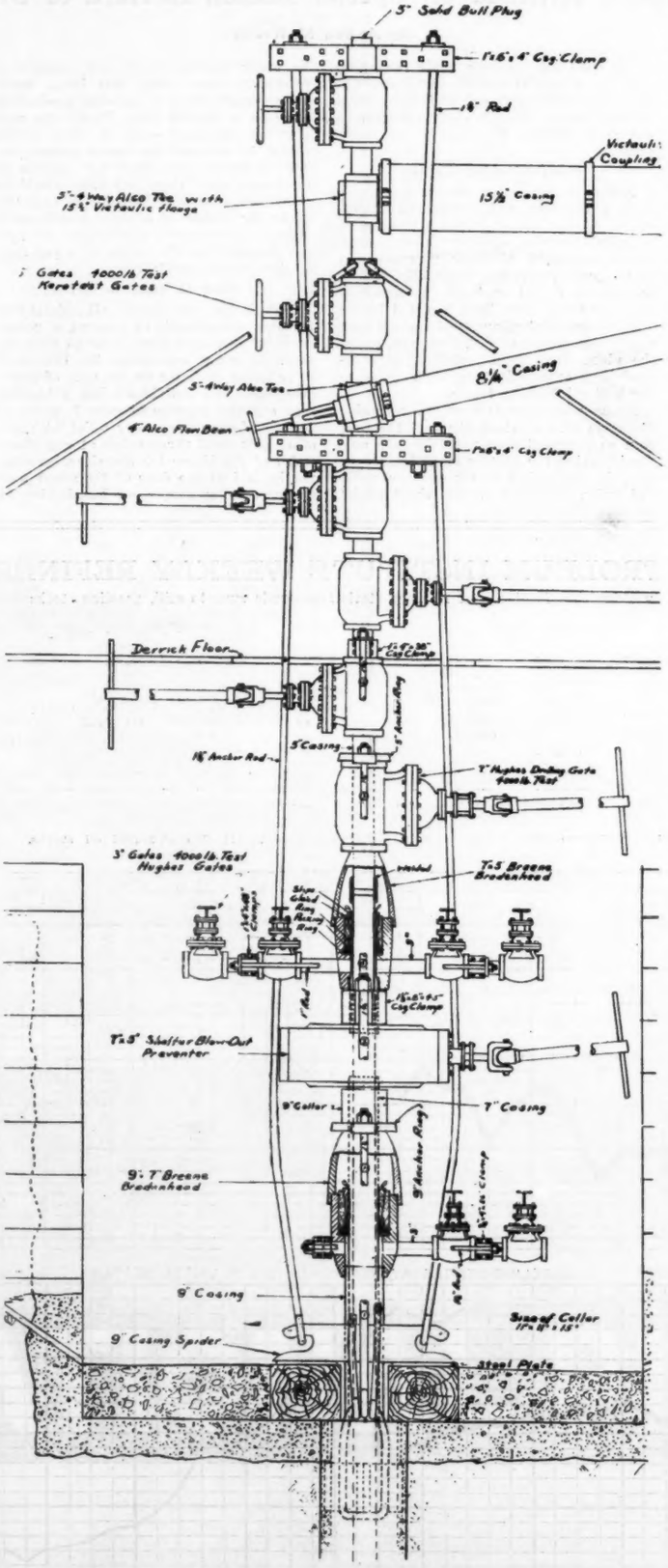
Just about a year ago production engineers for the major companies assisted the city attorney in framing an ordinance providing conditions under which zones within the city limits might be developed as oil pools. The experience gained by drilling many wells in the south field was used as the basis for these recommendations and if they were effectively followed and enforced hazards would be reduced materially.

However, courts have overruled the provisions of this ordinance and wells are spaced closer than good practice justifies because some property lines are very irregular and the judges, without regard to physical hazards set up by their rulings, have taken the stand that the property owners are entitled to drill for oil under their lands instead of combining their small area with others and drilling one well which would amply drain the oil and reduce the hazard.

In this particular area the Wilcox sand has proven to be very thick.

This greater thickness is adding to the amount of gas produced by these wells so that the gas-oil ratio is high and thus increases the necessity of caution in completing and producing these wells. They should be long-lived if they are properly handled, but where the operators are pressed for money to pay debts contracted in drilling their acreage they are more interested in getting large early returns to protect this indebtedness than they are in securing the ultimate production from the area drained by the well.

Some of the more progressive operators have acreage in this thick Wilcox sand area and they are using every precaution to produce the wells in a safe manner, for if their wells should get out of control the damage to the city would be very serious.



Cellar and christmas tree connections used on Empire Oil & Refining Co.'s No. 1 Refinery Site well, Oklahoma City Field, Oklahoma.

Some operators have divided their holdings into several small companies, each one formed to finance the individual well and damages could only be collected from the smaller individual company's holdings in the event of trouble, leaving the parent company safe from suit.

The city ordinance requires that each well shall be provided with not less than three heavy-duty master gates at the well-head, and it is common practice to open and close only the upper two valves when the well is produced, holding the lower or third gate in reserve in case of emergency. But if this lower gate could not be closed when this emergency did arise the well would be out of control and the damage done.

Empire Companies' Method

While there is some honest difference in opinion among responsible engineers about the advantages of installing screen in the bottom of a well to hold back the sand and keep it out of the flowing stream of oil and gas, it is agreed by all engineers that the control of rate of production at the well-head is very essential. Different methods of securing this much desired result are being resorted to and where blowout preventers and other additional pieces of equipment are used at the well-head the hazards are reduced materially.

The method of completing the No. 1 Refinery Site well includes the use of a special packing head and blowout preventers in addition to the use of the 5-inch flow string with screen opposite the sand at the bottom of the hole.

This screen is placed on the end of this flow string so that if it should be necessary to remove the screen pipe this operation can be more readily accomplished because the full string can be pulled.

If only a liner is set with a packer above the screen pipe it requires a fishing job to remove this screen if it should become necessary.

Under the system used by the Empire Companies the 5-inch casing is securely packed off at the top of the well from the 7-inch casing by means of a blowout preventer and a high pressure packing head. There are three master gates on the 5-inch casing, each tested to withstand 3,000 pounds pressure. The upper gate is used to control the well, but should it fail either of the lower gates can be used to shut the well in.

Above the master gates is the christmas tree, equipped with two adjustable flowing gates commonly called "flow beans." The upper part of the christmas tree is designed to permit the well to flow full volume through the 5-inch connections if desired. The flow is discharged into a 15½-inch pipe which permits the gas to expand and reduces the velocity. By means of these fittings it is possible to control the flow of the well from a very small amount up to its maximum capacity with safety and perfect control and without producing sand. Some of the fittings have been removed for examination and were found to be in perfect condition even though the well had been opened for initial gauging and for several producing periods.

Another point of interest in this safety hook-up is the tie rods for anchoring connections. These rods are of steel with welded eyes on one end and threads and nuts on the other. No hooks, old wire line or old rotary chain are used in connecting and anchoring fittings. Anchors and braces hold the connections in place at the top of the well to protect against abnormal strains sometimes caused by the impact of slugs of oil when a well surges.

If all of the 5-inch master gates should fail it would still be possible to shut in the well by unscrewing the 5-inch casing at a point within the packing head. After this connection has been broken a 7-inch gate, already in place above the packing head can be closed and the well shut in. The accompanying sketch of the connections and christmas tree shows this detail quite clearly.

Fire-fighting Apparatus

The city ordinance requires that certain connections must be provided around tanks and well head for the use of chemi-

(Continued on Page 67)

Why the Opposition to Legislation?

If East Texas Operators Really Have Changed Their Minds About Curtailment, Attitude on Special Session Is Hard to Understand

By Andrew M. Rowley

A person need not be regarded as unduly suspicious if he is dubious of the attitude of operators in the East Texas area in the present situation. A large majority apparently were strongly opposed to any form of curtailment of their crude oil production until agitation for a special session of the Texas Legislature became pronounced. Then it required but a very short time to devise the unit plan of production with an output of 300 bbls. per 20 acres and to have this plan approved at a largely attended meeting.

Only Temporary Relief

If low prices were responsible for the change in mind of East Texas operators and they now believe sincerely curtailment of production is good both for the whole industry and for themselves, why do they oppose a special session of the legislature which would make effective laws for the regulation of production on an equitable basis?

This opposition makes many persons feel the unit plan is a mere subterfuge to be used for a screen while the agitation for a special session continues. The unit plan would give but temporary relief at the utmost, even if every operator in the area affected lived up to its provisions.

Overproduction Certain

Estimates as to the proven acreage in East Texas vary from 100,000 to 122,000 acres. At the former figure a production of 1,500,000 bbls. daily is possible with the development of every 20-acre tract in the proven acreage. Naturally, such a production is not probable, as many of the tracts will have been depleted before a maximum production for the whole area would have been reached. However, under the plan, there is a certainty of overwhelming overproduction with development of all 20-acre tracts.

Those who now talk of an equitable proration also overlook the fact the unit plan as proposed does not take into any consideration the matter of difference in possible production of the various wells and units. In other words, there might be many 20-acre tracts not capable of producing more than 300 bbls., while others might have a possible production of close to 50,000 bbls. Under the unit plan as proposed each of these tracts would be allowed the same production. The owner of the tract not capable of producing more than 300 bbls. would be permitted to produce his wells at capacity while the owner of a tract which could produce 50,000 bbls. would have his output curtailed to six-tenths of 1 per cent of the possible production.

Now is Time to Act

Now is the time for the oil industry to lay the groundwork to prevent a recurrence of just such conditions as now obtain. It might necessitate the taking of more bitter medicine on the part of many companies and individuals but a healthy recovery and permanent cure is more to be desired than temporary relief with another sick spell threatening at any time.

All of the blame for the situation cannot be laid at the door of the small producer, royalty owner or leaseholder in East Texas. The large companies should have acted on their own initiative early in the development of this area. They could have limited their purchases of crude oil in that area and could have made enforceable the order of the Railroad Commission holding production to 160,000 bbls. daily by refusing to buy any quantity of crude oil moving to market above that figure.

Consider Whole Industry

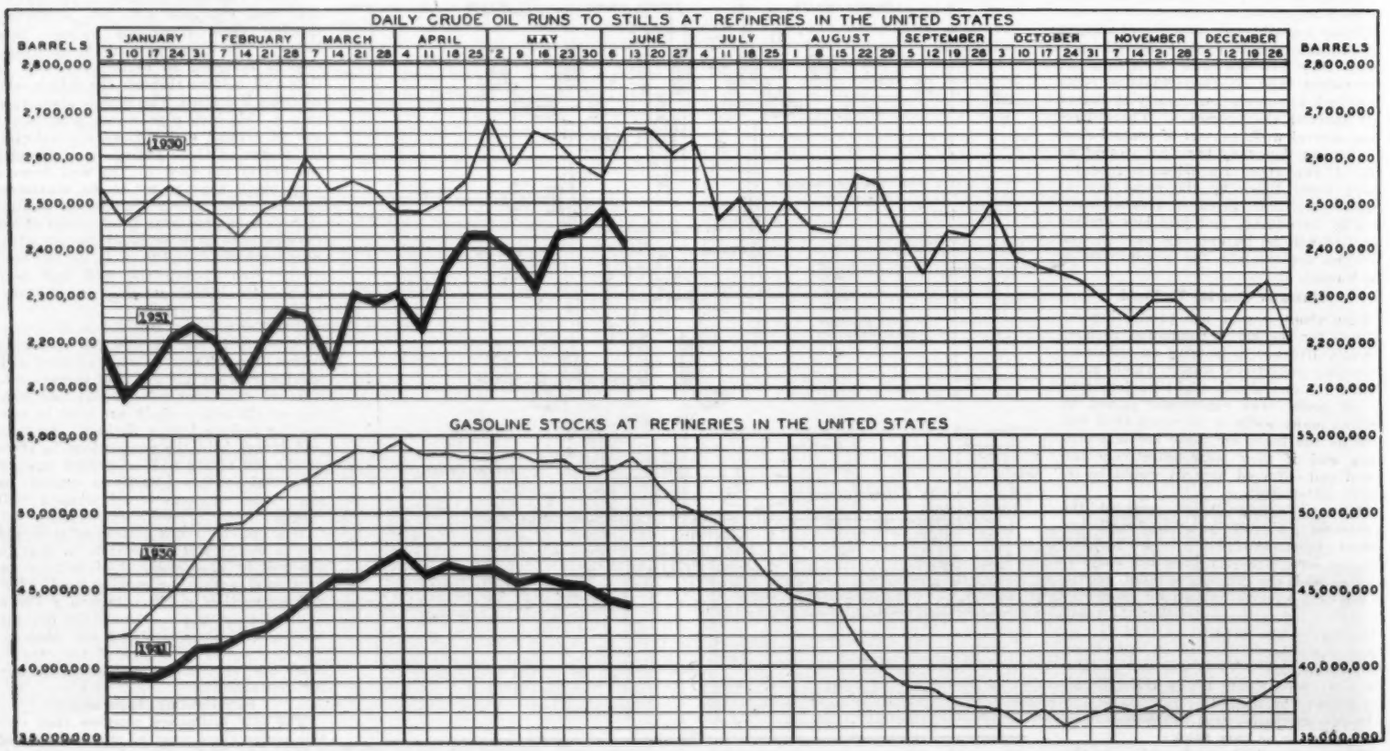
These large companies should consider the interests of the petroleum industry of the United States as a whole and so regulate their takings of crude oil that the entire industry be not made to suffer for the failure of one area to co-operate. Just as meetings discuss the quantity of production to be allowed in certain areas, the big buyers of crude oil could decide the quantity they would purchase in different fields. Limiting purchases might prove just as effective as limiting production because few producers in East Texas are in position to store excess production.

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

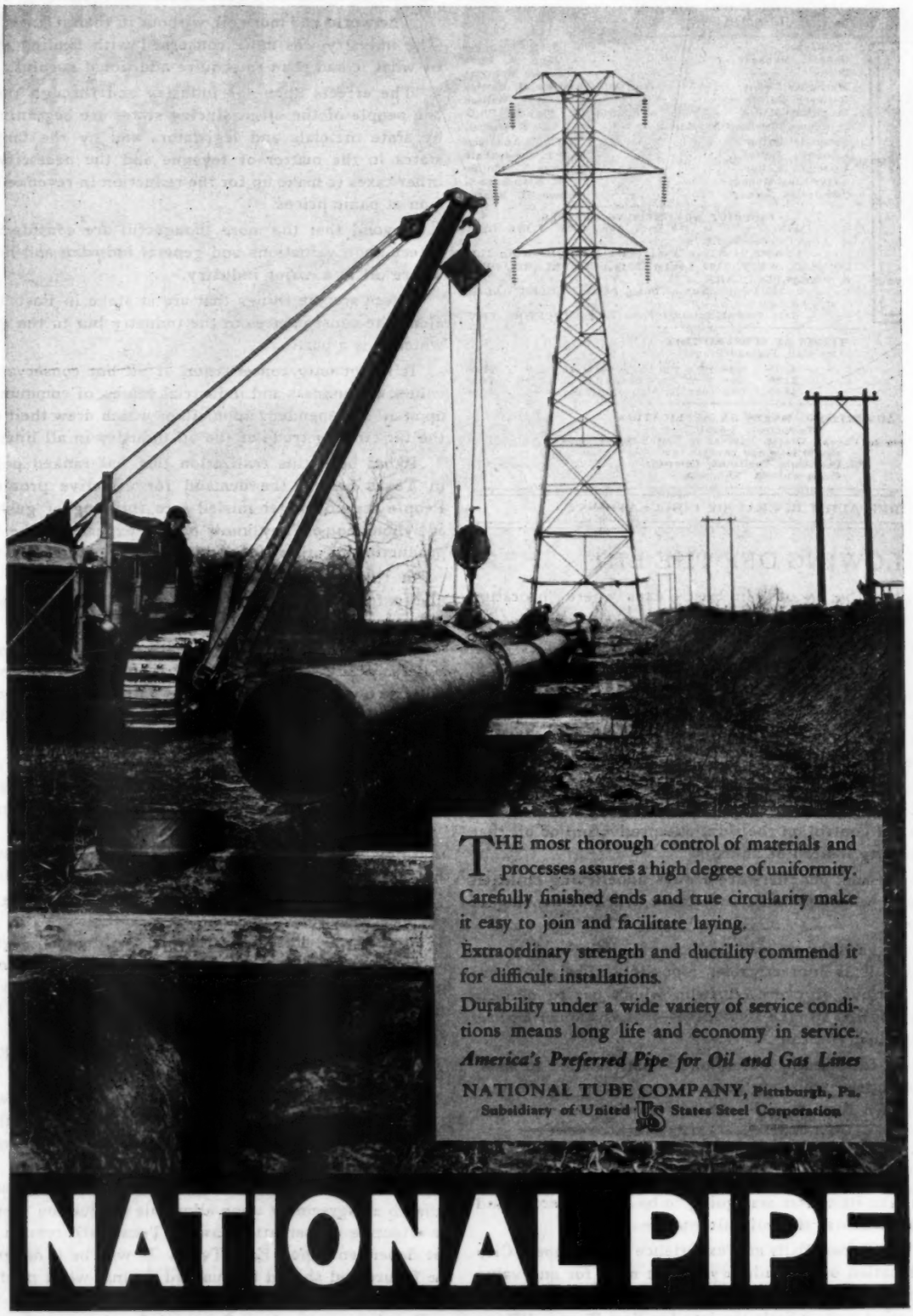
The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to still, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending June 13.

	Week ending June 13, 1931				Week ending June 6, 1931				Week ending June 14, 1930			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	498,400	7,832,000	9,189,000	100.0	494,100	8,156,000	9,291,000	100.0	502,700	8,544,000	8,635,000
Appalachian	91.8	93,600	1,538,000	1,223,000	91.8	93,100	1,626,000	1,202,000	91.0	87,850	1,727,000	743,000
Indiana, Illinois, Kentucky	96.6	340,400	6,343,000	3,701,000	96.6	338,000	6,327,000	3,776,000	99.6	338,700	8,884,000	4,052,000
Oklahoma, Kansas, Missouri	89.6	269,000	3,570,000	4,502,000	89.6	272,300	3,653,000	4,443,000	89.8	296,850	4,820,000	4,649,000
Texas	91.3	566,000	7,698,000	10,409,000	91.3	531,200	7,848,000	9,718,000	90.8	619,600	7,495,000	10,870,000
Louisiana and Arkansas	98.9	180,300	1,943,000	2,374,000	98.9	159,100	2,084,000	2,472,000	96.8	170,150	2,538,000	2,069,000
Rocky Mountain	89.3	60,400	1,873,000	857,000	89.3	53,900	1,924,000	848,000	93.6	64,000	2,720,000	1,152,000
California	96.5	453,600	12,613,000	98,143,000	96.5	476,700	12,607,000	98,758,000	99.3	590,150	16,114,000	107,051,000
Total United States	94.7	2,461,700	43,410,000	130,398,000	94.7	2,418,400	44,225,000	130,508,000	95.8	2,670,000	52,842,000	139,221,000
Texas Gulf Coast	99.8	429,100	6,516,000	7,350,000	99.8	414,300	6,656,000	6,922,000	100.0	454,000	5,992,000	7,322,000
Louisiana Gulf Coast	100.0	120,600	1,795,000	1,468,000	100.0	107,300	1,939,000	1,544,000	100.0	118,430	2,116,000	1,188,000

(1) Per cent refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



Data for 1931 based on weekly reports of the American Petroleum Institute. Figures for last week not shown in graph but are included in above tables.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BLOWING OFF THE LID

Well, they "blew the lid off" in East Texas where "proration failed" and now they are crying for proration.

Those who were shouting that proration had failed, largely because they had not given it loyal support, told us things were so bad that they could not be any worse with the lid blown off and everything wide open.

The lid was blown off and things not only became worse but so very much worse that there was no room for argument.

In fact the result was so unmistakable that there was an immediate reversal of sentiment for some form of proration that would provide some sort of control on the tidal overproduction of oil that was proving a liability instead of an asset.

It was a costly lesson, but there are always unbelieving children who will not heed warnings until they have stuck their fingers against the stove.

When voluntary curtailment was first proposed the bulk of the industry laughed at it as impracticable, impossible. The producers had always had periods of overproduction which passed quickly when nature was allowed to take its course—that is human nature, get what you can when you can.

But as new field followed new field and stocks swelled to back-breaking burdens and without any immediate promise of the old-time recovery between flush periods, the curtailment remedy began to be listened to.

California, West Texas, Seminole, successively postponing hope of recovery, won a majority of the producers to the belief that waiting for nature to take its course was going to be too disastrous and that in fact curtailment was the only alternative.

The threat of Kettleman Hills and experience at Oklahoma City completed the education of the industry on the need for and value of proration even if it had to be buttressed by state enactments.

But this realization came a little too late for East Texas. Where Oklahoma was functioning under state conservation regulations that at least checked the tide of overproduction and California's peril was leading the legislature to enact a conservation law that would be really effective, Texas found its laws exposed to attack and defiance just when it most needed them to be operative.

For the most remarkable thing about this phenomenal field is the changed attitude of the industry and of the general public. In older days the discovery of a new oil field was hailed by both the industry and the public at large as a bonanza.

Today East Texas, possibly the greatest oil field the world has known, is regarded by both industry and public as almost a calamity.

The world had more oil, without it, than it knew what to do with. The industry was more concerned with finding means to dispose of what it had than to acquire additional surplus.

The effects upon the industry and through the industry upon the people of the oil-producing states are beginning to be realized by state officials and legislators and by the taxpayers of those states in the matter of revenue and the necessity for increasing other taxes to make up for the reduction in revenue from oil production at panic prices.

Beyond that the more thoughtful are considering the possible effect upon valuations and general industry and business in states where oil is a major industry.

These are the things that are at stake in East Texas today, not alone the consequences to the industry but to the greater public of which it is a part.

It is not only conservation of oil but conservation of property values, of business and industrial values, of community values, built upon oil or dependent upon oil, or which draw their prosperity from the far circling trade of the oil industry in all lines.

It has been this realization that has ranked popular sentiment in Texas behind the demand for effective proration regulation. People are no longer misled into thinking of gushers and wealth as synonymous. They know by sad experience the effects of overproduction in other lines and can now understand it in oil.

In this age of general overproduction we no longer mistake plenty for prosperity. It is more likely to mean poverty if there is no market for it.

Within the industry experience is upsetting many time-honored beliefs. While still convinced that the industry is best qualified to solve its own problems, opinion is gaining that voluntary curtailment may be so weakened by a comparatively few as in East Texas that some form of compulsion must be available.

It is unlikely that curtailment would have been as successful as it has been had it not been for the official assistance of the Federal Oil Conservation Board and the co-operation of oil-producing states.

These states have learned that the industry is not asking for anything against the public interest and the industry has learned that state co-operation can be given without trammeling the industry.

So today we find the industry at large favoring the enactment of conservation laws that will be effective.

At the same time the traditional "wild game" legal theory of oil as property only when "reduced to possession" is being jolted by the knowledge of the value of gas pressure and operators actually entering suit against offset drainers, a development that will be watched with keen interest.

But topping it all is the evolution of opinion in East Texas with the discovery that blowing the lid off is far worse than proration, a conclusion that is bound to become more emphatically demonstrated as pumping costs have to be counted, and there come vain regrets that so much wealth was thrown away when it is gone beyond recovery.

Whether the operators in East Texas are or are not able to come to an agreement upon allowable production there the need for an effective conservation law in Texas will remain. That need is not dependent upon East Texas. It will be a danger any time in the future and should be guarded against when public opinion and the legislative will is ripe to do it.

For that reason alone Governor Sterling will be well advised to call a special session for the enactment of such a law. Had there been an effective conservation law in force today it would have saved Texas and other oil-producing States many, many times the cost of a special session in present prosperity and future development.

A Vast Majority of these Lines are DRESSER Coupled!

Natural Gas Trunk Lines in Pittsburgh District

A very comprehensive idea of the enormous mileage of natural gas pipe lines operating in the Pittsburgh district is given in the accompanying illustration.

A vast majority, possibly in excess of 90%, of these lines are Dresser Coupled and some of them have been in service for nearly forty years.

S. R. Dresser Manufacturing Company
Bradford, Pennsylvania

DRESSER COUPLINGS DOMINATE

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DRESSER COUPLINGS DOMINATE

Topping and Cracking Van Texas Crude

Produces High Yield of Gasoline. Straightrun Has Low Anti-knock Value. Oil Contains 95 Per Cent Paraffinic Hydrocarbons

By Gustav Egloff, E. F. Nelson and Paul Truesdell
Universal Oil Products Co.

Production in the Van Pool of Van Zandt County, East Texas, as in the newer Gregg and Rusk County fields, flows from a depth of 3,400-3,600 feet in a sand which is generally called "Woodbine." Unlike other East Central Texas areas, most of the Van Pool is included in a unitized block of acreage.

Van crude is a paraffin base oil. The straightrun gasoline contains over 95 per cent paraffin hydrocarbons. The yield of motor fuel obtained from straight distillation and by the cracking process was over 71 per cent.

SERIES ON REFINING

The accompanying article is one of a series appearing exclusively in The Oil and Gas Journal explaining products and yields to be expected in refining representative grades of domestic and foreign crude oils.

Similar analyses published in previous issues are as follows:

May 21, page 40—Joiner, Tex.
April 23, page 30—"Unrefinable crude oils."
April 16, page 30—Midcontinent.
April 16, page 30 — Pettus, Tex.
April 16, page 140—Kentucky.
April 2, page 30—West Texas.
March 5, page 88—Oklahoma City.
February 19, page 30—South Texas crudes.
February 12, page 38—Pennsylvania.

Additional discussions will appear in later issues.

The properties and distillation characteristics of the oil are tabulated as follows:

Van Crude Oil

A.P.I. gravity	34.6
Furol viscosity at 77° F.	40.0
Cold test, °F.	0
Sulphur, per cent	0.0
Coke, per cent	3.8
Basic sediment and water, per cent	trace

A.S.T.M. (100 cc. Distillation)

	°F.
Initial boiling point	142
End boiling point	762
% Distilled over	°F.
5	218
10	256
20	348
50	628
90	762
Per cent over at 410° F.	27
Per cent over at 439° F.	30
Per cent over at 572° F.	44

An atmospheric and vacuum distillation analysis was made on this Van crude, resulting in Table 1:

Two straightrun gasolines were produced under the above conditions, showing the following distillation characteristics:

Straightrun Gasolines		
Per cent of crude	26.0	30.0
A.S.T.M. (100 cc. Distillation)		
Gravity, °A.P.I.	64.9	62.7
Initial boiling point, °F.	93	102
5 per cent	126	138
10 per cent	153	160
20 per cent	185	192
30 per cent	210	220
40 per cent	230	246
50 per cent	250	270
60 per cent	266	293
70 per cent	284	315
80 per cent	305	338
90 per cent	330	370
95 per cent	348	392
Endpoint	376	425
Per cent over	98.0	98.5
Per cent bottoms	1.0	1.0
Per cent loss	1.0	0.5

A distillation of the same crude, using steam after reaching a vapor temperature of 450° F., yielded 36.5 per cent of a kerosene of 45.2° A.P.I. gravity. The lighter fraction in this distillation comprised 14.0 per cent of the crude and the residue was 48.5 per cent of the crude with 1.0 per cent distillation loss. The kerosene analyzed as follows:

A.S.T.M. (100 cc. Distillation)

A.P.I. gravity	45.2
Specific gravity	0.8008
Flash (open cup) °F.	106
Initial boiling point, °F.	284
% Distilled over	Temp. °F.
5	308
10	324
20	348
30	373
40	402
50	434
60	466
70	498
80	522
90	548
95	564
Endpoint	577
Per cent bottoms	1.0

Straightrun Gasoline

The Van crude oil was topped into a 400° F. endpoint gasoline and a fuel oil residue. The gasoline represented 27.5 per cent of the crude and had the following properties:

A.P.I. gravity	61.4
Initial boiling point, °F.	96
End boiling point, °F.	400
Sulphur, per cent	0.07
Doctor	sweet
Color	30+
Good odor.	

A.S.T.M. (100 cc. Distillation)

% Distilled over	°F.
5	138
10	158
20	186
50	252
90	340
End boiling point	400

This straightrun gasoline was subjected to test in a 30 series Ethyl knock testing motor. The knock rating was relatively poor, showing an octane number of 43 or benzol equivalent of 29 per cent. Expressed in another way, the fuel required 7.7 cc. of tetraethyl lead to equal Ethyl standard gasoline.

TABLE 1
1,000 cc. Atmospheric and Vacuum Distillation

Fraction	Vapor temp. °F.	Liquid temp. °F.	Pressure	Vapor temp. °F. corrected to atmospheric pressure	Gravity °A.P.I.	Viscosity, Universal 100° F.	Viscosity, Universal 210° F.	Cold test °F.
I.B.P.	104	...	Atmospheric	...	...	...	...	...
0-10%	222	...	Atmospheric	...	80.3	...	...	...
10-20	317	461	Atmospheric	...	61.4	...	...	...
20-30	408	558	Atmospheric	...	51.8	...	...	...
30-40	291	351	10 mm	521	42.2	...	...	...
40-50	352	418	10 mm	600	36.6	...	...	...
50-60	425	494	10 mm	690	31.1	65	...	30
60-70	497	570	10 mm	800	26.4	136	...	55
70-80	590	683	10 mm	865	23.1	...	66	70
80-90	630	740	9 mm	975	21.7	...	91	Solid at 76° F.
Bottoms					9.1 M.P. (Ball and ring)			=101° F.

A hydrocarbon group analysis was made upon the motor fuel. The percentages of unsaturated, naphthenic, aromatic and paraffinic hydrocarbons are shown in the following table:

Hydrocarbons—	Per cent
Unsaturates	1.7
Aromatics	2.9
Naphthenes	0.0
Paraffins	95.4

For comparison, similar distillation characteristics, chemical analyses and knock rating for a typical Pennsylvania straightrun gasoline are tabulated below:

PENNSYLVANIA STRAIGHTRUN GASOLINE*

A.S.T.M. 100 cc. Distillation	
A.P.I. grav.	61.8
Init. boiling point °F.	100
Pct. distilled over	Temp. °F.
10	159
20	193
30	220
40	243
50	265
60	280
70	313
80	328
90	369
95	395
Endpoint	406

Hydrocarbon content	Pct.
Paraffins	77.9
Unsaturates	2.2
Naphthenes	13.0
Aromatics	6.9

Knock rating—	
Pct. benzol equivalent	33
Octane number	47
T.E.L. (cc.'s required)	6.1

*Egloff, Nelson, Truesdell, The Oil and Gas Journal, February 12, 1931.

It is most interesting to note that the Van straightrun gasoline is composed of over 95 per cent paraffin hydrocarbons. This is widely different from other Texas gasolines which are naphthenic in character, whereas this Van Pool gasoline has no naphthenes present at all.

Cracking Results

The residue from the topping operation was used as cracking stock in a series of tests. The topped crude oil represented 71.5 per cent of the crude and showed the following analysis:

ANALYSIS OF CRACKING STOCK

A.P.I. gravity	24.3
Initial boiling point, °F.	448
End boiling point °F.	738
Sulphur pct.	1.14
Coke pct.	5.6
Flash (Cleveland) °F.	235
Fire (Open Cup) °F.	260
Flash (Pensky Marten) °F.	220
Furol viscosity at 77° F. sec.	52
Cold test °F.	13
Base sediment and water, pct.	0.7
Pct. distilled over	°F.
10	523
20	585
50	698
90	738
Pct. over at 572° F.	17.5

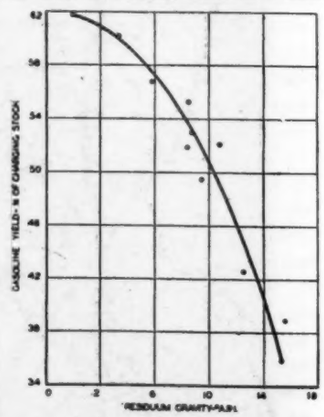


Figure 1—Relation between quantity distilled overhead and gravity of residuum.

Operating Conditions and Yields of Products From Cracking

The topped Van crude was subjected to cracking temperatures of 910° F. to 935° F. under a pressure of about 350 pounds.

The operating conditions for the nine cracking tests reported on this topped crude are tabulated below:

Test No.	1	2	3	4	5	6	7	8	9
Pressure, pounds per square inch	349	349	356	355	350	354	349	348	350
Transfer, temperature °F.	910	910	935	935	910	935	910	910	910
Vapor temperature to cond. °F.	381	386	402	404	396	410	397	402	405

Summary of Yields of Products From Cracking

Cracking topped Van crude by the "flash" method was regulated to produce, in different runs, bunker A, B or C fuel oils and a heavy pitch of 1° A.P.I. gravity. Results showed that with fuel oils meeting bunker A, B and C specifications, yields of 35, 52 and 57 per cent, respectively, of 400° F. endpoint gasoline were obtained. With the low A.P.I. gravity pitch, a yield of 61.8 per cent of gasoline was obtained.

Yields of products are tabulated below, based on the charging stock:

Run No.	1	2	3	4	5	6	7	8	9
Cracked gasoline (% of charge)	35.9	38.8	47.0	47.8	52.1	52.3	55.3	46.8	61.8
Residuum (% of charge)	62.1	58.7	47.7	46.6	42.9	40.0	38.2	36.7	32.3
Coke gas and loss (% of charge)	2.0	2.5	5.3	5.6	5.0	7.7	6.6	6.5	5.9
Gas (cubic feet per barrel charge)	210	235	310	330	300	360	350	350	380

The relation of the percentage yields of gasoline to the A.P.I. gravity of the cracked residuum is shown graphically in Figure 1.

The cracked distillates obtained were treated by agitating with 4 pounds of 66° Be. sulphuric acid per barrel, neutralized with caustic soda, and rerun with fire and steam at a maximum still temperature of 350° F. The product, after treatment, had a 30 color, and contained less than 0.1 per cent of sulphur. It showed only 1 mg. of gum per 100 cc. of gasoline by the copper dish test.

A—Cracked Gasolines

The nine gasolines obtained from cracking topped Van crude by the "flash" method formed from 36 to 62 per cent of the charging stock (or 26 to 47 per cent based on the crude oil).

The knock ratings of these cracked motor fuels from Van oil are particularly interesting in view of the paraffinic nature of the straightrun product from the same oil. The cracked gasolines showed knock ratings as high as 73 octane number, decidedly in contrast with the straightrun product of 43 octane number.

The yields and analyses of cracked gasoline from the nine tests are shown in the following table. The knock ratings were determined by testing the motor fuel in a series 30 Ethyl test motor:

CRACKED GASOLINES

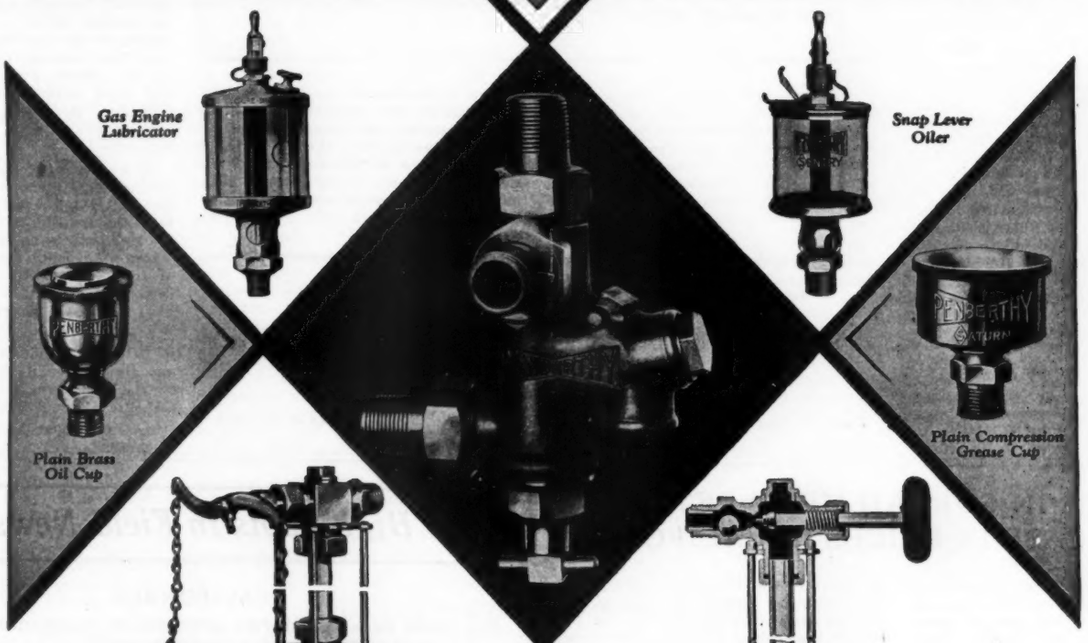
Test No.	1	2	3	4	5	6	7	8	9
A.P.I. gravity	60.1	59.8	59.0	59.0	60.1	58.3	60.9	60.3	59.9
A.S.T.M. 100 cc. Distillation									
Initial boiling point °F.	92	90	87	97	88	88	90	91	84
Pct. distilled over	Temperature °F.								
10	144	148	142	145	142	146	140	142	144
20	182	184	184	180	182	186	179	182	184
50	283	286	286	284	286	290	277	280	284
90	383	390	385	384	383	392	375	383	386
Endpoint	410	402	394	402	396	400	395	394	399
Knock Rating of Cracked Gasolines									
Benzol equivalent percent	56	56	59	58	57	59	56	56	57
Octane No.	70	70	73	72	71	73	70	70	71

Chemical analysis of a representative cracked gasoline from this group revealed

(Continued on Page 117)

PENBERTHY PRODUCTS

PREDOMINATE



Gas Engine Lubricator

Snap Lever Oiler

Plain Brass Oil Cup

Plain Compression Grease Cup

Navy Type Liquid Level Gauge

Safeguard Automatic Liquid Level Gauge

Screw Plunger Grease Cup

Spring Compression Grease Cup

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Seismograph Work With Existing Wells

Methods of Developing Profiles With Detectors in Existing Wells May Aid Operations in Gulf Coast Salt Dome Areas

By Burton McCollum[1] and Wilton W. LaRue[2]*

The present economic status of the oil industry, regardless of its cause, is having the effect of directing considerable attention to improved efficiency in prospecting and production methods. In this connection, geophysicists have devoted no little amount of thought and effort to developing more accurate means for determining well locations. Some of the more recent seismic methods which have been proven successful will be explained here in a qualitative manner with the intention of avoiding more or less burdensome mathematics which will be published in a future technical paper.

OF SPECIAL INTEREST IN THE GULF COAST

The discovery of production in sands beneath the overhanging cap rock and salt at Barbers Hill and the Allen Dome suggests the possibility of similar deposits on other Gulf Coast domes. The making of well locations for the development of such deposits is a difficult procedure in which a deep profile of the mushroomed flank is of great assistance to the geologist. For this reason, certain methods of developing such a profile, here described, are thought to be of special interest.

Exploring for Very Deep Domes

During the past year or more, use has been made of existent wildcat wells for the purpose of making a seismic exploration of the surrounding territory for very deep seated domes. The principle of the method used is shown in Figure 1. Here, a detector of seismic waves is run to the bottom of a wildcat well, which for various reasons, may have missed the dome. With the detector in this position a series of shots are fired on the surface, on a circle having the center approximately at the well and the circumference distant from 5 to 7 miles from the well.

It will be apparent that if a dome exists anywhere within a radius of several miles of the well, as shown in Figure 1, the shots from one direction, as S_1 will show higher velocity than from S_2 and other directions, thereby indicating the presence and position of the dome. If the top of the dome is no more than 1,000 or 2,000 feet below the bottom of the well, actual salt events will be recorded on the detector, thereby giving a very large lead in the direction of the dome. If the dome is much deeper than this, it can still be detected due to the increased velocity of the shale overlying the dome, as this shale is more highly consolidated and is under abnormally high pressure. In the latter case, the increase in velocity, especially if the dome is extremely deep, may be small enough so that in order to make certain of exact shooting distances it may be necessary to determine whether the bottom of the hole is directly under its surface location; this can be accomplished by the seismograph by shooting four additional shots in four different directions about a mile from the well, as indicated by S_3 and S_4 in the section shown in Figure 1. If the bottom of the hole deviates in any direction from vertical, this will be revealed by the difference in time of arrival of the sound wave from the four different directions. By this method the direction and amount of drift of the hole can be determined.

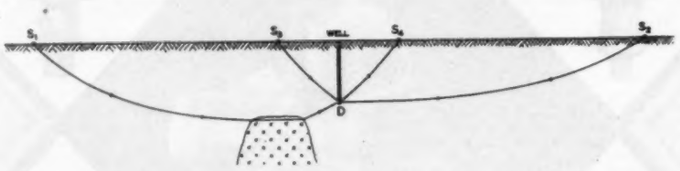

Figure 1—Diagram illustrating use of well for exploring surrounding region for deep domes.

It will be quite apparent that by this method the intervening region between the well and the distant shots, particularly that portion within 2 or 3 miles of the well, will be explored for deep seated domes to a depth considerably in excess of the depth of the well used for the detector.

Practical Utilization

Practical experience with this method to date has demonstrated its usefulness and there is no doubt that this method can be made very effective in exploring the Gulf Coast for domes to a substan-

(Continued on Page 81)

*Presented before Society of Petroleum Geophysicists, San Antonio, Tex. Published by permission of the Bulletin of the American Association of Petroleum Geologists and McCollum Exploration Co.

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SLOWNESS IN CURTAILMENT RETARDS INCREASE IN PRICES IN CALIFORNIA

LOS ANGELES, Calif., June 15.—The attempt of California operators to effect an increase in the price of crude and refined oil on the Pacific Coast gained considerable momentum during the past week and the outlook is quite favorable for an adjustment of some kind within the next few days. This projected increase was originally planned to become effective during the first week in June, but the failure of producers to reduce production of crude oil to their respective allowables retarded constructive action.

Producers of crude oil have been in a position for several weeks to write their own ticket by meeting curtailment obligations, but have been slow in reducing production to the maximum limit established by a recent economic survey. The Oil Producers Sales Agency, California Oil and Gas Association and a number of prominent operators assumed an aggressive attitude over the past week-end in an effort to end the disastrous gasoline war which has reduced the price of motor fuel more than 50 per cent on the Pacific Coast since March 1. The movement to terminate the gasoline price war and reduce crude oil production in California to economic requirements is expected to stabilize conditions temporarily and result in a better price for both crude and refined oils. The failure of producers to meet any of the several curtailment objectives in the past left major companies holding the sack and for this reason they are at present sitting tight until some additional tangible curtailment is evidenced.

Major companies have agreed to purchase all crude oil brought under curtailment and while the oil producers sales agency has already secured outlets for approximately 15,000 bbls. per day there is still a considerable quantity of oil which has not yet been brought under

(Continued on Page 120)

SCORE SHEET ON OIL PRODUCTION

Below is shown the allotted average daily production in the United States from April 1 to October 1, 1931, suggested by the Oil States Advisory Committee, and the actual daily average production in the week ending June 13:

	Barrels			
	Allotted	Actual	Over	Under
Texas	714,000	937,730	223,730	.....
Oklahoma	550,000	557,065	7,065	.....
California	500,000	525,750	25,750	.....
Louisiana	65,000	65,450	450	.....
New Mexico	40,000	43,993	3,993	.....
Kansas	110,000	102,910	.....	7,090
Arkansas	50,000	45,345	.....	4,655
Rocky Mountain area	60,000	55,360	.....	4,640
Eastern fields	110,000	110,000	.....	.....
Total	2,199,000	2,443,603	260,988	16,385

Total net daily average overproduction, 244,603 bbls.

High Spots in Field News

CALIFORNIA

Big wells boost California production, postponing reduction of output needed to secure price readjustment.

KANSAS

Kansas operators cut their production down to 102,000 bbls. Meeting to consider new proration law this week.

OKLAHOMA

Potential tests show more than 80 wells in Oklahoma City Pool that can produce from 30,000 bbls. upward in a day.

NORTH LOUISIANA-ARKANSAS

Wildcatters busy in Panola County, eastern Texas. Two producers in Sabine Parish. Gas well in Mississippi area.

SOUTHWEST TEXAS

New showing in Southwest Texas. Pettus Field extended and good showing in Brooks County. Saxet gasser controlled.

GULF COAST

Gulf Coast production now close to commission's allowable. Deep failure in Matagorda County. New wildcat in Brazoria County.

ROCKY MOUNTAIN AREA

Grand County, Utah, wildcat has 600 feet of oil in hole. Midway Dome, Wyoming, has favorable showing. New Montana gas tests.

WEST TEXAS, NORTH TEXAS AND PANHANDLE

Schleicher County well standing shut down with 1,200 feet of fluid in hole. Howard County wildcat looks good for 100 bbls. North Texas pipe line runs increased. Collingsworth County wildcat draws attention.

EAST TEXAS

Meeting of operators adopts plan for proration on basis of 300 bbls. to each 20 acres; other operators say it will not work and special session of legislature is necessary to revise laws. Completions during week dropped from 108 to 85. Now 607 drilling wells with 106 locations made during week.

Many Big Wells in Oklahoma City Pool

Potential Tests Show More Than 80 Wells That Can Produce From 30,000 Bbls. Upward in a Day

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Oklahoma's production increased approximately 5,000 bbls. a day for the week ending June 13. The daily average was approximately 557,000 bbls. a day for the same seven days. The increase is mostly in the Greater Seminole area.

Unprofitable leases in the Greater Seminole area are being checked and wells on restricted Indian lands in the same district and in the Wewoka area, are being surveyed with the view of eliminating properties that are being operated at costs higher than the posted price of crude oil. These losing properties may be shut down by agreement with the Department of Interior. The shutting down of these wells would prevent necessary abandonment of many wells on Indian lands in the eastern half of the State.

The Standard Oil Co. of Louisiana announced during the week it would discontinue purchasing oil in the Bald Hill-Morris district in Muskogee and Okmulgee Counties in eastern Oklahoma, when the present contract of 100,000 bbls. of oil has been completed. It was estimated by the Prairie Pipe Line Co. which is running the oil south to the Oklahoma pipe line on tender shipment that the balance of the oil to complete the contract will be produced by July 1.

The Prairie Pipe Line Co. is handling approximately 700 bbls. of oil a day for the Standard Oil Co. of Louisiana from the Bald Hill-Morris district. Operators with leases affected are petitioning other purchasers to extend their gathering lines to this distress oil in the Bald Hill-Morris district.

Oklahoma City's Big Wells

The Oklahoma City Field, which was discovered about two and one-half years ago, is still active and huge gushers are still being completed in the field, which is considered one of the greatest high-gravity producing areas in the world. The field has completed some of the largest high-gravity producers ever found. A recent well, the Phillips Petroleum Co.'s No. 1 McBeth, NW cor. SW NE Section 10-11-3w, made 9,378 bbls. of oil in 2 hours and 15 minutes. On that basis the well is rated at 100,000 bbls. a day.

There are plenty of other wells in the field that are also large producers. The list of recent potentials reveals that 587 wells have completed their potentials to June 1. More than 80 of these wells show a potential of better than 30,000 bbls. a day per well, some of these bigger wells showing 50,000 bbls. a day. The field has more very large oil wells than any other area in the United States.

A short time ago Oils, Inc., completed a well within an initial production rated at nearly 100,000 bbls. a day, reckoned from a short open flow, but the well on the June potential gauges was given a potential of 55,000 bbls. a day. Hall & Briscoe and British American Oil Co.'s No. 5 Holmes made 3,712 bbls. of oil in 1 hour and 20 minutes. In the early days of the field the Indian Territory Illuminating Oil Co.'s No. 1 Thomas-Fuzzell, SW cor. SE SE Section 13-11-3w, made 53,000 bbls. of oil on a 24-hour gauge. Another large well was Phillips Petroleum Co.'s No. 1 Nunn, which is given a potential of 70,234 bbls. a day.

New potentials will be taken in the Oklahoma City Field starting July 1. It will be the third potential gauge taken in the field this year and some express the opinion the gauge will be smaller than the one taken April 1. It is expected by that time approximately 800 wells will be productive. During the month of May water intrusion spread to 14 additional wells producing from the lower Simpson sand, making a total of 115 wells now showing water in the Oklahoma City Field. The Silicious lime area has 72 wells making water, the lower Simpson sand has 41 wells, and the Wilcox area has two wells showing water. Some believe the decline in production in the field is greater than the flush production from the new wells.

During the week the Continental Oil Co. resumed shipping crude oil from the Oklahoma City Field through its pipe line to the company's refinery at Ponca City. The first few days the shipments averaged around 2,800 bbls. a day, but are expected to increase to 10,000 bbls. a day.

The Keene-Okla Oil Co.'s No. 1 Ohio, SE cor. NW SE, Section 15-11-3w, on the west side of the field, was rigging up to drill deeper, after fishing the tools from the hole. It was showing a small amount of oil and gas. During the week three tests that have been shut down resumed drilling operations. The Cunard Oil Co.'s No. 1 Armourdale, SW cor. NW NW, Section 2-11-3w, in the north end of the field, which has been shut down for several months, has been taken over by the Spring Rose Drilling Co. and drilling resumed at 2,900 feet.

S. M. Stauffer and others' No. 1 Weining, NE cor. NW SE, Section 15-11-3w, which was shut down at a total depth of 2,347 feet, several months, has resumed operations.

Sunbeam Oil Co.'s No. 1 Wheeler, SW cor. NW SE, Section 15-11-3w, on the west side of the field, which has also been shut down for several months, was drilling again at 1,900 feet.

The Oklahoma Corporation Commission assessed fines totaling $1,500 against the Marco Oil & Royalty Co. for alleged overproduction of oil from its wells in the Oklahoma City Field.

The Morgan Petroleum Co., which was also fined by the Oklahoma Corporation Commission for alleged violations of proration orders posted a supersedeas bond pending an appeal to the State Supreme Court. The company's No. 1 Stout, C NW SE, Section 2-11-3w, which was alleged to have been overproduced, was allowed to be opened to take a potential gauge to determine the exact amount of oil it was supposed to have overproduced. The well made 1,139 bbls. of oil in 45 minutes, but cut out the connections and had to be shut in. It will be reconnected with new equipment and given an opportunity to complete the four-hour flow. The well was out of control when it was first completed.

Lightning Causes Damage

During the week lightning ignited the storage tank in the north end of the Oklahoma City Field at the Sunray pipe line station. Approximately 4,500 bbls. of oil were lost, and two adjoining tanks were melted down by the intense heat. The fire occurred in the negro residential section but a favorable wind prevented destruction of any homes. The tanks were of 15,000 bbls. capacity.

Lightning also set fire to the natural gas escaping from a vent at the Phillips Petroleum Co. gasoline plant in the north end of the field, but the gas shut off before any damage resulted.

During the week ending June 14 the Oklahoma City Field produced 1,199,029 bbls. of oil which is a daily average of 171,289 bbls. The pipe line and tank car shipments from the field for the same seven days were 1,153,124 bbls. of oil, a daily average of 164,732 bbls. There are 792 completed wells in the field, 12 having been added so far this month. At the present time there are 52 field operations including wells drilling, wells shut down for reasons other than cement, and rigs and locations.

Recent Completions

Jamison and Grimes and others' No. 1 fee, SW cor. NW SE, Section 34-12-3w, in the north end of the field, flowed 1,785 bbls. of oil in one hour from the Wilcox sand at 6,339-6,505 feet. The gas was estimated at 60,000,000 feet a day. Tom Slick Oil Co. and others' No. 2 Classen-Edwards, E half E half SE SW, Section 3-11-3w, flowed 1,638 bbls. of oil in one hour from the Wilcox sand at 6,135-6,535 feet. The gas was estimated at 50,000,000 feet a day. Same company's No. 1 Burroughs, SW cor. NE NW, Section 10-11-3w, made 3,287 bbls. of oil in two hours with a flow of gas estimated at 35,000,000 feet a day. The Wilcox sand was found from 6,370-6,541 feet.

New Pool in Seminole?

Some geologists express the opinion another pool has been found in the Greater Seminole group. The discovery well, drilled by R. H. Pierce & Co. and others in SW cor. SE Section 8-9-6, was completed a few weeks ago and has a potential production of 250 bbls. a day. Developments in the vicinity give indications that the discovery well was on the west side of the new pool, and located on a Wilcox sand structure. The productive area of the pool is believed to be located as follows, the west edge along the east line of Section 8, extending into SW of Section 9, and south in the NE of Section 17, and southeast into NW of Section 16.

The Prairie Oil & Gas Co.'s No. 1 Sager, SE cor. SW Section 8-9-6, the west offset to the discovery well, is believed to be on the west flank of the structure. The Prairie test found 5 feet of Misener sand at 4,055 feet, and the top of the Sylvan at 4,060 feet. Using the top of the Sylvan shale as a marker, the test is believed to be running approximately 24 feet lower than the discovery well. The top of the Viola lime was found at 4,155 feet. The 6-inch casing is being landed at 4,176 feet.

Tests in the Carr City Pool were showing oil. The Empire Oil & Refining Co.'s No. 3 Brown, NW cor. NE SE Section 3-8-5, found a showing of oil in the Simpson at 4,135-80 feet. The test is expected to be drilled deeper to the Wilcox sand.

Amerada Petroleum Corp.'s No. 1 Tiger, NE cor. NW SE Section 3-8-5, Carr City Pool, flowed 90 bbls. of oil from the Hunton lime while landing the 6-inch casing at 4,110 feet.

Prairie Oil & Gas Co.'s No. 1 Harjo, SW cor. SE NE Section 3-8-5, has landed the 6-inch casing at 4,060 feet in Sylvan shale and was drilling deeper.

Activity in the Perry area of Noble County continues. Two of these operations are expected to be drilled into the sand in a few days. Magnolia Petroleum Co.'s No. 2 J. Young, SE cor. SW NW Section 22-21-2w, was drilling in the Chattanoogn shale at 5,013 feet. The Misener sand is expected to be found at approximately 5,100 feet, where production in the vicinity is found.

The Magnolia Petroleum Co.'s No. 2 Sumner, SE cor. NW Section 4-20-1w, was drilling near 3,200 feet. The company expects to complete the test as a gas well in the sand found at approxi-

(Continued on Page 98)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

Company, farm and location—	Remarks:
ALFALFA COUNTY	
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Drlg. 5,460 ft.
BECKHAM COUNTY	
Price-McFann's No. 1 Webster, C SW SW Sec. 34-8-26w	T. D. 2,344 ft.; plugged back to 1,890-1,900 ft.; 1,500,000 ft. gas completed.
Mid-Continent's No. 1 Schaff, C NE SW Sec. 22-11-22w	Waiting on cement to set 430 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-2-22w	Shut down 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w	Shut down 3,575 ft.
BLAINE COUNTY	
Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	Shut down 5,120 ft.
Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w	Shut down 1,115 ft.
COAL COUNTY	
McGraw Oil Co.'s No. 1 Ward, NE SE Sec. 35-1-8	Shut down 1,300 ft.
Whitney et al's No. 1 Miller, SE NE Sec. 10-2-8	Shut down 760 ft.
COMANCHE COUNTY	
G. W. Stegner's No. 1 Doebel, C SW SW Sec. 3-3-9w	Shut down 1,460 ft.
J. R. Travis' No. 1 Pickett, NE cor. Sec. 3-1-11w	Wilcox 1,030-40 ft.; water; abnd.
GARFIELD COUNTY	
E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	Shut down 5,850 ft.
GARVIN COUNTY	
Malarnee et al's No. 1 Phillips, NE SW SE Sec. 24-2-2w	Drlg. 3,820 ft.
Skinner's No. 1 Elrod, SW cor. Sec. 13-2-3	Shut down 1,120 ft.
GREER COUNTY	
French's No. 1 Murphy, SW NW Sec. 23-7-21w	Shut down 1,645 ft.
HARPER COUNTY	
Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w	20,000,000 ft. gas 5,350-5,400 ft., total depth 8,539 ft.; shut down, sprayed 50 bbls. gasoline.
HASKELL COUNTY	
Bowers Oil & Gas Co.'s No. 1 Black, Kent Townsite, SE SW SW Sec. 31-8-20	Spudding.
Ault et al's No. 1 Harrison, CWL SE NE Sec. 14-9-19	Shut down 650 ft.
Ault et al's No. 1 Hall, NW SW SW Sec. 14-9-19	Shut down 2,000 ft.
Ault et al's No. 1 Hall, SE NW Sec. 25-9-19	Shut down 200 ft.
Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e	Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW Sec. 10-9-18e	Shut down 2,387 ft.
HUGHES COUNTY	
Wright et al's No. 1 Ott, SE SW Sec. 15-5-11	Shut down 1,645 ft.
KAY COUNTY	
Wilwright Gas Co.'s No. 1 Wildegrube, NE SW Sec. 14-27-1	Shut down 4,055 ft.; csg. collapsed will abandon.
Lewis et al's No. 1 Harris, SE NW Sec. 14-25-1	Location.
Peters & Buckles' No. 1 Hayes, NW NE NW Sec. 24-28-3	Wilcox 3,662-65 ft.; water; P. B to 3,185 ft.; to shoot.

(Continued on Page 93)

The Keen—Enqineering Talent that an Outstanding

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Our Engineering Division has been particularly strengthened by placing Mr. S. B. Daugherty in full charge of our development work, and by the employment of Mr. C. E. Sargent as Mr. Daugherty's assistant.

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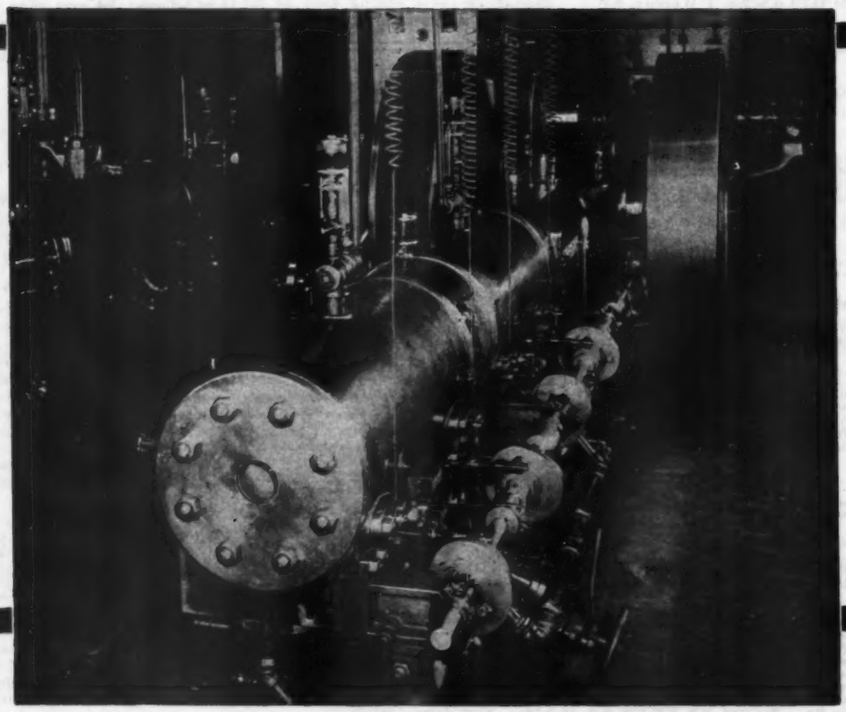

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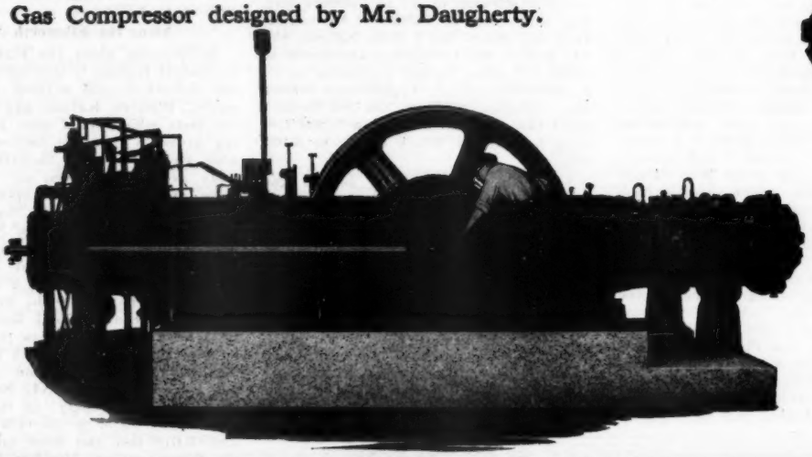

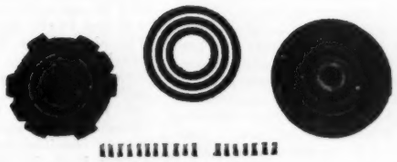

A TRANSIT compressor valve removed from natural gas compressor after three years (18,802 hours) of service. Discharge pressure 150-250 lbs.

Our Development Department is studying the application and design of TRANSIT gas ENGINES and Gas Compressors to the end that these products will exactly meet the requirements of the natural gas industry.

The problems of fuel economy and compressor valves have already been solved with so much success that we just can't see how anyone can justify the selection of compressing equipment of any other make.

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GAS ENGINES
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Kansans Again Cut Their Production

State Down to 102,900 Bbls. Advisory Committee Meets This Week to Assist in Carrying Out New Proration Law

By W. A. Spinney
Staff Correspondent, Kansas Fields

Kansas operators continue to produce their old and depleted wells notwithstanding the market prices are the lowest in 20 years. The few wells that are shut down are the ones that face difficulties over a market outlet. In many cases the income will no more than equal the pumping costs, but the operators fear they cannot afford to shut down the properties even if it costs them more than the returns because they think that taking wells off production may damage them permanently.

The State's production for the week ending June 13 was approximately 102,900 bbls. a day, a decline of approximately 4,000 bbls. a day from the previous week. The decline in the production was from Sedgwick County and the Ritz-Canton Pool, in McPherson County.

The first meeting of the five members of the Oil Proration Advisory Committee appointed by members of the Public Service Commission, and headed by Marvin Lee, as chairman, will be held in Topeka, June 17. The others members of the committee include Nelson K. Moody, president of the Prairie Oil & Gas Co.; Rex Kent, president of Kent Oil Co., a Prairie Oil & Gas Co. subsidiary; Ralph Pryor of Slick, Pryor & Lockhart, and Lee Scott of the Vickers Petroleum Co.

The meeting in Topeka will include a conference with the State's attorney general, who will give the members an interpretation of certain important sections of the new proration law which became effective May 28, enabling the committee to act in accordance with the State's view in the administration of the law.

A meeting of all producers in the Ritz-Canton area will probably be called for some day this week. The last regular meeting was in March. The future of the voluntary proration plan in the area will be discussed and it is believed Umpire L. R. Pickrell will suggest the taking of new potentials of all wells in the field.

The Ritz-Canton Field, the largest flush pool in the State, has a daily average potential of 93,970 bbls. of oil, with several other wells yet to be tested, which are expected to bring the total to over 100,000 bbls. a day. The allowable output has been reduced to 6 per cent of the unit potential which is 86,828 bbls. a day.

Under the last voluntary proration agreement operators that started wells after March 17 agreed that they would be shut in for 30 days after completion. The pipe line outlet of the field remains at approximately 6,300 bbls. a day. At the present time 15 wells are drilling below 3,000 feet.

New wells given their potential rating during the week were Phillips Petroleum Co.'s No. 1 Wiles, SE cor. NE, Section 25-19-2w, of 2,464 bbls. a day, from the Viola lime; Syndicate Oil & Gas Co.'s No. 1 Becker, SE cor., Section 36-19-2w, 1,214 bbls. a day.

Wells Nearing Completion

Tests nearing the pay horizons in the Ritz-Canton area include the following: E. K. Carey's No. 1 Holt, C NW SE, Section 13-19-2w, which has cemented the casing at 2,817 feet after finding the top of the chat at 2,915 feet. Wolf Creek Oil Co.'s No. 1 Dunsford, SE cor. SW, Section 23-19-2w, found the top of the chat at 2,914 feet where a showing of gas was found. Casing was landed at the same depth. McPherson Oil & Gas Co.'s No. 2 Giffin, C SW NW, Section 14-19-2w, in the Decker gas area, cemented casing at the top of the chat at 2,896 feet and was standardizing.

Reynolds & Unruh's No. 1 Koehn, SW cor. NW SW, Section 36-19-2w, had a showing of oil in the top of the Viola at 3,390 feet. The oil rose 1,500 feet in the hole in an hour and half. It extends the Viola lime production in the Ritz-Canton area about a half mile to the west.

Pipe Line to Ritz-Canton

The right of way for the proposed pipe line of the White Eagle Oil & Refining Co., a subsidiary of the Standard Oil Co. of New York, is being surveyed and construction is expected to start in the next 90 days. The pipe line will extend from its refinery at Augusta in Butler County to the Ritz-Canton Field in McPherson County. The proposed line will be approximately 70 miles long and will cost in the neighborhood of $500,000. The size of the line has not been definitely decided, it will be either 6 or 8-inch line. The route according to a tentative survey will be directly south from the Ritz-Canton Pool, passing east of Moundridge in northern Harvey County. It will continue south toward the Valley Center Pool, in Sedgwick County, where it will probably turn east, terminating at a point about 5 miles north of Augusta, in Butler County, where it will connect with another pipe line of the White Eagle Oil & Refining Co. which extends from the company's tank farm where ten 55,000-bbl. tanks have been erected. From the tank farm the pipe line runs directly to the Augusta refinery. The White Eagle refinery which is now a 15,000-bbl. plant is being enlarged to handle the additional crude oil.

The company may also extend its pipe line system from the Fitz-Canton Field on the west to the Schurr Pool in Rice County and to Heiken Pool in Ellsworth County, both of which are now shut in without any marketing outlet.

In the new area along the border of Reno and Harvey Counties, Derby Oil Co. and Reserve Oil Co.'s No. 1 Goering, SW cor. NW NE, Section 1-23-4w, in the Haury Pool, was fishing at 3,890 feet. Study, Turner and others' No. 1 Goering, SE cor. NE Section 1-23-4w, was also fishing at 2,278 feet.

In Harvey County, Hollow and others' No. 1 School Land, SW cor. NW NE Section 20-22-3w, was shut down at 2,410 feet.

Russell County, which has considerable scattered production, is being tested by wildcat tests. Gilbreath and others' No. 1 Bratton, C NE Section 33-11-13w, found a showing of oil at 3,090-94 feet, was shut down at 3,395 feet for casing. Hall and others' No. 1 Mills, SE cor. SW SE Section 30-14-13w, was abandoned at 3,090 feet after finding a showing of oil at 2,902-08 feet. J. Liggett and others' No. 1 Whitson, SW cor. NW SW Section 16-11-15w, was drilling below 3,200 feet after landing the 5-inch casing at 3,106 feet.

In Rush County, where several gas wells have been completed during the last few months, Flynn and others' No. 1 Rife, C NW Section 23-18-16w, a half mile south of production, was drilling at 225 feet. Dewey and Mitchell's No. 1 Greenawalt, C SW Section 17-19-16w, found a hole full of water at 3,330-40 feet and were underreaming at 3,435 feet.

In the southwestern part of the State in the Hugoton gas field, Argus Production Co.'s No. 2 Christopher, C NE Section 10-33-39w, Stevens County, was drilling at 5,475 feet. The operators expect to drill the test to the Simpson formation in search of oil.

In the northwestern part of the State in Rawlins County, J. G. Durham and others' No. 1 Weaver, SE cor. Section 3-2-35w, was drilling at 3,150 feet.

Other deep tests in the State are: Swaim Oil Co.'s No. 1 Taylor, C NW Section 21-25-24w, Ford County, northeast of Dodge City, was underreaming at 5,027 feet, while the total depth of the test is 5,105 feet. Carter Oil Co.'s No. 1 Everett, C NE Section 22-19-21w, Ford County, was drilling near the 4,500-foot level.

Gypsy Oil Co.'s No. 1 Coleman, C SW NE Section 25-17-25w, Ness County, was drilling at 4,770 feet.

Along the Ellsworth Arch

Wildcatting along the Ellsworth arch in central Kansas is still active although the district is still without any market outlet. Western Kansas has other wildcat tests which could open new producing areas as they are located on favorable structures. The majority of these tests are being drilled on leases that were expiring and the operators were forced to drill to hold the blocks.

J. A. Aylward and others' No. 1 Stratman, SE cor. NW SE, Section 1-17-10w, Ellsworth County, is shut down after making 117 bbls. of oil in 2 hours. It is estimated to be a 2,000-bbl. well from the Silicious lime at 3,255-71 feet. No other tests have been started as the area has no pipe line or loading rack for marketing the production. Milton and others' No. 1 Kester, SE cor. NE, Section 6-14-9w, Ellsworth County, in the northern part, found water in the Oswald lime at 2,819-3,018 feet and were underreaming the 6-inch casing. Hershey and others' No. 1 Schultz, C NE, Section 9-14-8w, were drilling near 2,700 feet. Aladdin Petroleum Co. and others' No. 1 Stoddenberg, C SW, Section 22-16-10w, Ellsworth County, was drilling at 2,265 feet.

The Schurr Pool, near Raymond, Rice County, has 11 producing oil wells with a potential of 17,000 bbls. and several other wildcat wells have been completed that are estimated to be good for 2,000 bbls. a day, are also shut in. Other wildcat tests drilling in the county are, Detrick & Langston and others' No. 1 Purcell, NW cor., Section 33-19-9w, which was drilling on iron at 1,574 feet; Solar Oil Co.'s No. 1 Zink, SE cor. NW, Section 3-19-10w, drilling at 700 feet; Stearns-Streeter Co. and others' No. 1 Blake, NE cor. NW, Section 9-18-10w, drilling below 500 feet. The location for Allison and the Fitzwilliam Petroleum Corp.'s No. 1 Walstein, NW cor., Section 2 21-6w, has been abandoned.

In Barton County, near Great Bend, Syndicate Oil & Gas Co.'s No. 1 Boertz, NW cor. SE NE, Section 13-18-12w, was drilling at 2,600 feet. Skelton Oil Co.'s No. 1 Ott, C SE SE, Section 16-19-14w, was underreaming the 8-inch casing at 2 245 feet. The wildcat test of McCool and others' No. 1 Tsern, NW cor. SE NE, Section 12-20-11s, was shut down at 1,600 feet.

Chase County

Kline and others' No. 1 Stewart, C NE SE, Section 20-19-6, is spudding. Ryan and others' No. 1 Morris, C NE NW, Section 5-19-7, is a machine.

Coffey County

Roberts and others' No. 1 Hay, SW cor. SE NW, Section 32-22-15, is dry and abandoned at 1,250 feet.

Cowley County

Dunlap and others' No. 1 Thompson, C NW NW, Section 5-33-5, is spudding. Home Natural Gas Co.'s No. 1 Corn, C SE SE, Section 13-33-5, is spudding. No.

(Continued on Page 81)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location—	Remarks:
Syndicate Oil Co.'s No. 1 Boertz, NW SE SE Sec. 13-18-12w	Shut down 2,440 ft.
Skelton Oil Co.'s No. 1 Ott, C SE SE Sec. 16-19-14w	Drlg. 2,252 ft.
McCool et al's No. 1 Tsern, NW SE NE Sec. 12-20-11w	Shut down 1,600 ft.

CHASE COUNTY

Borden et al's No. 1 Atkinson, NW SE Sec. 18-18-7	Rig on ground.
Kline et al's No. 1 Elliston, C SE SE Sec. 21-19-6	Shut down 585 ft.

CLAY COUNTY

Crystal Oil et al's No. 1 Tivier, SW cor. Sec. 19-8-2	Shut down 2,500 ft.

COFFEY COUNTY

Heyburg's No. 1 Kroft, SE SW SE Sec. 30-22-14	Shut down 1,565 ft.
Roberts et al's No. 1 Hay, SW SE NW Sec. 32-22-15	Abandoned 1,250 ft.

COWLEY COUNTY

Leman et al's No. 1 Hill, SE NE Sec. 27-33-4	Abandoned 685 ft.
Fisher et al's No. 1 Hurt, C SW SE SE Sec. 11-34-3	Rig.
Roth & Faurot's No. 1 Reedy, SW NW NE Sec. 3-32-3	Shut down 1,040 ft.

DICKINSON COUNTY

Severs et al's No. 1 Lavengood, NE SW Sec. 13-13-2	Shut down 3,850 ft.

ELLSWORTH COUNTY

Hershey et al's No. 1 Schultz, C NE Sec. 9-14-8w	Drlg. 2,640 ft.
Alyward et al's No. 1 Stratman, SE NW SE Sec. 1-17-10w	Silicious 3,255-71 ft.; 117 bbls. 2 hrs.; shut in; est. 2,000 bbls.; no pipe line connection.
Aladdin Pet.'s No. 1 Stoddenberg, C SW Sec. 22-16-10w	Drlg. 2,265 ft.
Milton et al's No. 1 Kester, SE NE Sec. 6-14-9w	Drlg. 3,018 ft.

FORD COUNTY

Carter Oil Co.'s No. 1 Everett, C NE Sec. 22-29-21w	Drlg. 4,363 ft.
Swain et al's No. 1 Taylor, C NW Sec. 21-25-24w	Drlg. 5,105 ft.

GRAHAM COUNTY

Schleimeyer et al's No. 1 Clark, SW NE NE Sec. 11-9-25w	Drlg. 4,440 ft.

HARPER COUNTY

Reeler et al's No. 1 Bear, C NE Sec. 21-36-6w	Shut down 1,830 ft.

KINGMAN COUNTY

Skelly Oil's No. 1 Miles, NE cor. Sec. 30-27-10w	1,635-40 ft. 2,000,000 ft. gas; at 2,005-20 ft. 6,000,000 ft. gas; at 2,132-42 ft. 3,000,000 ft. gas, showing oil 2,385 ft.; T. D. 3,441 ft.; S. D.; estimated at 600 bbls. a day.

MARION COUNTY

Midwell's No. 1 La Master, NW cor. Sec. 31-22-4	Shut down 650 ft.

MORTON COUNTY

Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22-34-43w	T. D. 3,640 ft.; shut down.

MORRIS COUNTY

Urschel et al's No. 1 Bersuch, NW SE NW Sec. 10-17-7	Machine.
Hankerson et al's No. 1 Cessman, SW SE Sec. 24-16-9	Cleaning out 2,260 ft.

NESS COUNTY

Gypsy Oil Co.'s No. 1 Coleman, C SW NE Sec. 25-17-25w	Drlg. 4,762 ft.

NORTON COUNTY

Richards et al's No. 1 Colby, Sec. 17-4-21w	Rig.

OSAGE COUNTY

Briggs & Smith's No. 1 Wood, SE NW Sec. 21-14-16	Shut down 1,050 ft.
Fields' No. 1 Usher, SE cor. Sec. 35-16-17	Shut down 400 ft.

(Continued on Page 127)

Wildcatters Busy in Panola County

Thirty Drilling Blocks Assembled. East Texas Border Counties Getting Play. Two Producers in Sabine Parish

By J. R. Crumpton

SHREVEPORT, La., June 15.—There was little activity in the proven areas of North Louisiana and Arkansas during the week. Not a new location was made in Arkansas, the only permits issued in that State by the Department of Conservation being to plug and abandon eight wells in the proven fields of Ouachita and Union Counties. The depressed feeling of operators and royalty owners has been augmented by the announcement of several companies that they will withdraw from several of the fields. In addition, the announcement is expected daily that the companies will plug and abandon a large number of small pumpers now being operated at a loss.

Only two producers were recorded in the division, both in the Zwolle Field of Sabine Parish. The Sabine Production Co. completed its No. 2 Pearce, Section 10-7-11, flowing 25 bbls. daily from 2,425 feet, and the Stovall Drilling Co.'s No. 1 Nulton came in Friday morning flowing at the rate of 25 bbls. of oil an hour from a total depth of 2,356 feet. The well is southwest of town lot production near Zwolle and a direct south offset to Frank Buttram's No. 1 Hale. The well showed some oil at 2,348 feet, but was deepened, and started blowing out before drill stem was pulled from the hole, after which it flowed steadily and seems destined to be one of those rare exceptions in that field. Production is coming from chalk at the total depth which was topped at 2,089 feet.

Mississippi Gas Well

Rankin County in Mississippi came through with another good gas well with the completion of Grandstaff and others' No. 1 Carr, Section 12-5-1, which is estimated to be making 35,000,000 feet of gas from 2,419 feet.

Louisiana Completions

There were four dry holes and five abandoned locations to make up the list of completed operations. In Caddo Parish, Haynes Brothers junked and abandoned their No. 2 Spell, Section 15-21-15, at 3,975 feet, and J. C. Walton, in Sabine Parish, abandoned his No. 1 Sabine Lumber Co., Section 11-7-12, at 2,376 feet. Harrison County, in East Texas, registered another dry hole with the completion of George L. Pace's No. 1 T. J. and Eugene Barker, Victor Pedrosa Survey, at 4,016 feet. The other unsuccessful test was in Panola County with the abandonment of Sam E. Bell and others' No. 1 Burnett Lumber Co., T. B. Hendricks Survey, at 3,335 feet.

Eastern Texas Wildcats

Despite the curtailment of operations in the proven areas, the wildcatters continue unabated, particularly in the border counties of East Texas. An intensive drilling campaign will mark the program in Shelby and Panola Counties as evidenced by the new locations made during the past week, together with the rigs that are already active. In Shelby County alone, 11 rigs are now running and 7 new locations are reported. The Sloan-Tokio Oil Co.'s No. 1 Windham, H. English Survey, in this county, has held the spotlight for the past several weeks because of a good show of oil and gas obtained at 3,399 feet. The well made two heads of oil for a duration of several minutes more than a week ago but sanded up and the operators are now fishing for five joints of liner at 3,000 feet with the expectancy of setting 4½-inch casing for a thorough test.

Other drilling operations in Shelby County follow: Bradley & Kadane's No. 1 Ashberry, G. W. Mitchell Survey, drilling in sticky shale at 2,950 feet, topping the Austin chalk at 2,790 feet with a base of 2,877 feet; E. L. Chapman's No. 1 Pickering Lumber Co., C. E. Henry Survey, drilling at 3,580 feet in lime. The Chapparel Oil Co. is preparing to resume drilling in its No. 2 Holt, Matthew Moore Survey, where operations ceased several months ago at 3,111 feet. H. H. Gracey is shut down temporarily for water on his No. 1 Morrison, William English Survey, at 2,511 feet and William A. Stephens and others are drilling on their No. 1 Foster & Billingsley, J. Bowlin Survey, at 1,540 feet. Henry Maulding's No. 1 Frost Lumber Co., A. D. Fountain Survey, is changing to a heavy rig at 1,880 feet; Schultz and others are repairing rig at 2,640 feet on their No. 1 Hughes, J. Clay Survey; C. H. Tautenhahn has spudded in on his No. 1 Bogard, and Sloan Prospecting Co.'s No. 1 Sanford, M. M. Vann Survey, is laying water line.

In Panola County, wildcatting is at a high peak with approximately 30 drilling blocks reported assembled in the county. The Mid-Kansas Oil & Gas Co. has assembled a block of about 7,000 acres in the southern part of Panola County with some of the acreage in Shelby County. This company will make a series of core tests to obtain subsurface geology, and have supdded in on its No. 1 J. T. Shores, Susan Snider Survey. The Mid-Kansas leased this block more than a year ago without drilling obligations, but recent oil and gas showings in Panola and Shelby Counties, is probably the reason for them starting operations at this time. Two deep tests in the proven gas area in the northeastern part of this county are under way and being watched closely. The Ark-La Pipe Line Co. is drilling in hard lime at 3,162 feet on its No. 14 Werner, Ben C. Jordan Survey, and in the same survey, the United Production Co. is drilling at 3,833 feet on its No. 10 Werner.

Louisiana Drilling

Several interesting wildcats are being drilled in North Louisiana and are reaching interesting depths. The Ark-La Pipe Line Co. has set 10-inch casing at 2,565-feet on its No. 1 Gayoso Co., Inc., Section 14-16-10, in Bienville Parish. This well will more than likely be a gasser as it is in the gas area of Lake Bisteneau where several dry gas wells have been obtained. In Bossier Parish, Andrews & Devlin cored a likely looking sand in their No. 1 Nattin, Section 15-22-14, from a depth of 2,872-82 feet. The operators will set 4½-inch casing and make a test. The deep test of the Pelican Natural gas Co., No. 1 Cooper, Section 29-18-14, is making better progress since changing to heavier drill stem and is now drilling at 3,218 feet. In the same parish, Rhodessa gas district, the United Gas Public Service Co. is arranging to set 9-inch casing in its No. 1 Smith, Section 33-23-16.

The Gulf Refining Co. has spudded in on a new test in Winn Parish, its No. 1-A Bodcaw Lumber Co., Section 4-10-5, having set 12½-inch casing at 201 feet. This will be an interesting operation as it is in the vicinity of the salt domes of that parish. Other wildcats in North Louisiana follows: Leue Oil Co.'s No. 1 Kinder, Section 2-21-7, Claiborne Parish, drilling at 2,030 feet; E. T. Oakes, in DeSoto Parish, coring sandy shale at 1,745 feet on his No. 1 Bryany and others, Section 30-13-15; Mack Jourden Co.'s No. 1 Lockett, Section 32-13-10, Red River Parish, is drilling at 1,520 feet. Two wells northwest of the proven Zwolle Field is being watched closely, R. L. Gay's No. 1-A Long Bell Lumber Co., Section 10-8-13, having cored sand from 3,262-70 feet with a good show of gas and oil. The other test is J. J. Keen's No. 1 Belton, Section 31-9-13, about 3 miles northwest of the Gay location. This well had a good show of oil at 1,605 feet and 8-inch casing has been set for a test.

Daily Average Runs

Daily average oil production continued on the decline in the two states during the week, North Louisiana having a net decrease of 370 bbls. daily, and Arkansas 360 bbls. daily for a total of 730 bbls. daily decrease for all fields. The daily average runs for the several pools were:

NORTH LOUISIANA

	Bbls.
Caddo, light	7,125
Caddo, heavy	2,760
Homer	3,130
Haynesville	5,690
DeSoto and Red River	2,620
Elm Grove	490
Bellevue	460
Cotton Valley	1,600
Urania	4,300
Pleasant Hill	400
Sarepta-Carterville	1,210
Zwolle	7,085
Holly	530
Total North Louisiana	37,400
Total previous week	37,770
Decrease	370

ARKANSAS

El Dorado	3,670
Smackover, light	4,130
Smackover, heavy	30,340
Stephens	850
Nevada	1,030
Lisbon	705
Champagnolle	2,950
Urbana	1,670
Total Arkansas	45,345
Total previous week	45,705
Decrease	360
Total both states	82,745
Total previous week	83,475
Decrease	730

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

BOSSIER PARISH

Company, farm and location—Remarks:

H. L. Morgan's No. 13-A Kendrick, 669 ft. E, 330 ft. S, NW cor. SE SE, Sec. 22-18-11.....Drlg. 1,568 ft.

CADDO PARISH—GREENWOOD

Calatex O. & G. Co.'s No. 1 Edgar, 1,480 ft. S, 1,900 ft. E, NW cor., Sec. 17-16-16.....Location abd.

Calatex O. & G. Co.'s No. 1 McAnn-Alfred, 1,310 ft. S, 970 ft. E, NW cor., Sec. 17-16-16.....Location abd.

CADDO PARISH—OIL CITY

Trio Corp.'s No. 1 Levee Board, 212 ft. S, 500 ft. E, NW cor., Sec. 17-20-15..... 1,220 ft. oil in hole, 2,265 ft; waiting on standard rig.

CADDO PARISH—PINE ISLAND

Haynes Bros.' No. 2 Spell, 956 ft. W, 200 ft. N, SE cor. SE, Sec. 15-21-15.....Junked and abd. 3,962 ft.

J. T. McCormick's No. 1 C. B. Christian, 330 ft. S, 300 ft. W, NE cor. SW, Sec. 27-21-15.....S.D. 1,335 ft.

Shreveport Oil Corp.'s No. 2-B Muslow, 1,000 ft. S, 300 ft. E, NW cor., Sec. 32-21-15.....Arranging to set perforated csg. 2,135 ft.

Simplex Oil Co.'s No. 1 Youree-Glassell, 500 ft. N and E, C, Sec. 13-20-15.....Set 10-in. 150 ft; S.D.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 300 ft. S, NE cor., Sec. 2-20-4.....Location.

OUACHITA PARISH

Ark-La. P. L. Co.'s No. 6 McInnery, 700 ft. N and E, SW cor. SW NW, Sec. 28-19-4e.....Set 16½-in. 106 ft., 10½-in. 537 ft; drlg. 875 ft.

Jordan Drlg. Co.'s No. 7 Cole, 265 ft. S, 1,459 ft. W, NE cor., Sec. 49, in Sec. 50-18-4.....Location.

United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4.....Location.

RICHLAND PARISH

Hope Prod. Co.'s No. 3 Noble, 2,049 ft. S, 2,607 ft. E, NW cor., Sec. 1-15-5e.....Set 6-in. 2,269 ft; waiting on csg.

Pelican Nat. Gas Co.'s No. 2 Chapman, 660 ft. N and W. SE cor. SW, Sec. 14-16-6e.....Set 8-in. 870 ft.

State Line O. & G. Co.'s No. 1-A Holdiness, 1,062 ft.

(Continued on Page 93)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

BIENVILLE PARISH

Company, farm and location—Remarks:

Ark.-La. P. L. Co.'s No. 1 Gayoso Co., Inc., 560 ft. N, 660 ft. E, SW cor. NW SW, Sec. 14-16-10.....Set 10 in. 2,565 ft; T.D. 2,578 ft.

Arcadia Drilling Co.'s No. 1 Atkins, 175 ft. W, 120 ft. N, SE cor. NW NE, Sec. 27-18-6.....Derrick.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14.....Cored sand 2,872-82 ft; arranging to set 4½-in.

Flint River Oil Co.'s No. 1 C. L. DeMoss, 200 ft. S and E, NW cor. SE NW, Sec. 22-22-15.....S.D. 2,702 ft.

Dr. W. N. Hankins' No. 1 Newell, 300 ft. S and W, NE cor., Sec. 12-19-11.....Coring 979 ft. (corrected depth).

D. L. Perkins' No. 1 Ardis & Co., 1,127 ft. N, 198 ft. E, SW cor., Sec. 13-15-11.....Set 10-in. 90 ft; S.D.

D. L. Perkins' No. 1 J. W. Glover et al, 560 ft. N and W, SE cor. NE, Sec. 23-15-11.....Location abandoned.

Rombaugh et al's No. 1 Allison, SW SE, Sec. 10-19-13.....S.D. 1,600 ft.

CADDO PARISH

Pelican Nat. Gas Co.'s No. 1 Cooper et al, 1,810 ft. E, 1,064 ft. S, NW cor., Sec. 29-18-14.....Drlg. lime 3,218 ft.

United Gas Public Service Co.'s No. 1 M. K. Smith, 660 ft. S, 2,640 ft. W, NE cor., Sec. 33-23-16.....Drlg. shale 3,600 ft; arranging to set 9⅝-in. csg.

CALDWELL PARISH

Carter Bell's No. 1 Taylor, 150 ft. S, 150 ft. E. NW cor. NE SE, Sec. 17-14-4.....Derrick.

Hudson et al's No. 1 Burton, Sec. 35-12-2e.....S.D. 2,950 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMiller, 70 ft. N, 100 ft. W, C, Sec. 26-9-6.....T.A. 3,097 ft.

CLAIBORNE PARISH

Leue Oil Co.'s No. 1 Kinder, 154 ft. N, 642 ft. E, SW cor. SE, Sec. 2-21-7.....Drlg. 2,030 ft.

DE SOTO PARISH

Keatchie O. & G. Co.'s No. 1 Hallie Smith (was H. E. Weichert's), NE SE, Sec. 31-14-15.....S.D. 2,350 ft.

Ben Merritt, tr.'s No. 1 Wallums, NE cor. SW SW, Sec.

(Continued on Page 92)

The motorist wants cracked gasoline

American Petroleum Institute estimators say we must produce every month 600,000 barrels *more* of cracked gasoline than we did last year in order to meet the demand Their estimate for straight-run gasoline was 350,000 barrels a month *less* than last year

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ity has gone up It is going up all the time

Meeting high standards is no new thing for Dubbs refiners

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Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

New Oil Showings in Southwest Texas

Pettus Field Extended and a Good Showing Is Found in Brooks County. Wild Gasser in Saxet Field Controlled

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., June 15.—J. M. Davis extension to the Pettus Field, a new sand in the Cartwright gas field in Live Oak County discovered by the Houston Oil Co. in its No. 23 Cartwright, closing in of the wild gas well in the Saxet Field in Nueces County and a fairly good showing of oil in Ike Howeth's test in Brooks County on the Singer ranch were leading features of the week in Southwest Texas.

J. M. Davis' No. 1 Ray, 330 feet from the north and east lines of the John W. Williamson Survey at the southwest corner of the townsite of Pettus topped the sand at 3,920 feet, under 1 foot of caprock and got a good saturation of oil. On drill stem test it filled up 350 feet in oil in 10 minutes and showed 90 pounds pressure on three-eighths inch choke. There is no water and the depth is regular with the field and it looks good. Casing was set and the well was to be drilled in the middle of this week.

In the early days of the Pettus Field some discouraging tests were drilled to the southwest of the townsite and it rather looked to some as though the limits of the field were reached in that direction. Mauldin's No. 1 fee a half mile beyond nearest production, however, got a good showing of oil at 3,859 feet. This was some weeks ago and not until lately was casing set. Total depth of that hole is 3,861 feet, some shallower than the Davis well and elevation is about the same. Davis test is about a half mile farther west from the Mauldin test.

On the east end of the Pettus district United Production Co.'s No. 37 Ray is down 3,956 feet and right around the depth where it must pick up something soon if it finds production in the Pettus sand. Same company's No. 11 Ray, a half mile south, blew out at 3,815 feet and was lost and the No. 3 Ray, 4,200 feet northeast of the No. 37 Ray, is a small gas and oil well at 4,060 feet and between the No. 37 Ray and the Pettus Field at the west is the No. 38 Ray a dry hole in the Pettus sand. The situation makes it interesting as to what the No. 37 Ray will do.

Cosden & Co. and Rowan are starting a test north of the Cosden Pool which is approximately 1½ miles west of the Pettus Townsite Pool. The new test is on the Freeland 300-acre tract in the north John Pace Survey and is approximately a half mile north of the nearest producer in that pool. Only about a half dozen producers were ever drilled in that pool and with the exception of Rowan & Tong's test on the same tract but located 4,000 feet to the west and dry down to 4,530 feet there is no positive evidence as to the boundaries of that pool.

Cartwright Field

Cartwright gas field in Live Oak County producing from sands at around 2,100 feet down to 2,300 feet, was discovered by the Houston Oil Co. several years ago and is unit owned. With the exception of the company's No. 1 Rose Boothe, which made a small oil well at approximately a mile deep, and which is located a mile north of nearest production, the sands at 2,100-2,300 feet are the only producing sands. The No. 23 Cartwright is on the northwest edge of the field 690 feet north and slightly east of No. 11 Cartwright and it found a sand at 3,555-65 feet that on drill stem test filled up 250 feet of oil in eight minutes. The oil is 24 gravity and the sand according to the best judges is 250 to 300 feet above the Pettus sand. It is somewhat new all around. The company has set 9-inch casing at 3,550 feet and should be ready to test by the last of this week. Within the last few months the company has started a campaign to find deep production in the field and No. 1 Rose Boothe and the No. 23 Cartwright and a couple of dry holes are the results thus far.

The Cartwright gas field is about 25 miles south and slightly west of the Pettus Field and is a little nearer the Gulf Coast line than the Pettus Field.

West of the town of George West in Live Oak County and 25 miles southwest of the Pettus Field Burke-Greis Oil Co.'s No. 1 George West last week cored the rock that overlies the Pettus sand at 3,656 feet. At least it was thought by the operators to be that rock. Production in Pettus is around 3,900 feet and deeper. However, it produced salt water and is now drilling at 3,777 feet.

Continuing the account of operations in that same general area, the Carsil Oil & Gas Co. finally went back into the No. 2 McGill and deepened it to 4,272 feet and have now finally abandoned it. This test was located 900 feet north of No. 1 McGill which found gas at 2,685-90 feet that looked like a big well. It ran wild for a couple of days and was plugged and abandoned for fear of endangering water in the sands. No. 2, located 900 feet north, failed to get that sand and was reported abandoned at 3,004 feet but has since been deepened to 4,272 feet without finding anything. Location has been staked for No. 3 900 feet south of No. 1.

Corpus Christi District

Houston Oil Co.'s No. 1 Lawrence in the Saxet Field in Nueces County a little west of Corpus Christi is now closed in and mud pumped into the hole. Total depth is 2,740 feet and it blew out a couple of weeks ago and ran wild for a week or so. The Gulf Coast Oil Co.'s No. 1 Harrell, a mile north of it, also blew out recently between the 8¼ and 12½-inch casing and caught fire and burned the derrick down. It has since been rebuilt and the well controlled. Total depth was 4,095 feet and casing has been set and cemented and it was waiting on the cement when the thing blew out. This has delayed its completion but it is ready now to drill plugs.

Houston Oil Co.'s No. 2 Rand Morgan and L. L. Smith's No. 1 Hunter, the first at 5,180 feet and the other at 5,300 feet have been making hole all week but failed to find anything that looked like production. Saxet Oil Co.'s No. 8 Dunn at 4,277 feet was first reported as largely salt water. This seems to have been an error and it is now classed as a 250-bbl. oil well, and reported completed.

North of Nueces Bay in San Patricio County Saxet Oil Co.'s No. 4 White Point Development Co. looks like a failure all around. It reached a total depth of 5,712 feet and last week came back up and perforated the casing at 3,190-3,210 feet and tested salt water. This is the second attempt on that side of the bay to get deep production. The first test resulted in a small well making both oil and gas.

Balcones Fault Region

In the Balcones fault region Schimmel & Batts are completing their No. 1 J. E. Ferguson in southwestern Bastrop County, and it looks like the second producer in a new Serpentine plug, and is the second test they drilled. It topped the Serpentine at 1,476 feet about the same as the producer completed recently and has a total depth of 2,177 feet. It ought to make 15 bbls. a day, or more, which is about the size of the first test.

In Caldwell County M. O. Rayor's No. 2 Dunlop at 2,517 feet is a few feet in the Edwards lime and showing some oil and he has erected a 500-bbl. tank and is ready to test, but some are of the opinion that the showing of oil comes from a formation at about 2,300 feet and not from the Edwards. The location is close to a fault line and it is possible that it cut the fault and got the showing from oil coming up the fault plane. At any rate it is not estimated by anyone at more than a very small well. The location is about half way between the Luling Field on the northwest and the Bruner Field production at the town of Luling.

Harry Bruner got a dry hole at 770 feet and has abandoned his No. 1 Jim Sherrill in northern Guadalupe County near Staples. He believes he got a little too far east and is moving to the northwest corner of the same tract. There is a surface fault in evidence in that territory and tests drilled in years gone by have had shallow showings of oil.

Edwards Plateau Territory

In the Edwards Plateau territory northwest of San Antonio the only test that has been moving in Kendall County has been the Dixon Oil Co.'s No. 1 Behr which has made a few feet each week, but is now shut down at 2,628 feet. Most of the activity in that territory has cen-

(Continued on Page 95)

SOUTHWEST TEXAS PROVEN AREAS

PETTUS POOL—BEE COUNTY

Company, farm and location—	Remarks:
Geo. N. Moore et al's No. 2 Freeland in John Pace Sur.	Location.
Cosden Oil Co.'s No. 2 J. M. Freeland, in John Pace Sur. No. 1	Derrick up.

COOKSEY POOL—BEXAR COUNTY

Penn Oil Co.-Sun Oil Co.'s No. 1 Pollok, 1,100 ft. SW of No. 1 Cooksey in John W. Raill Sur.	T. D. 1,420 ft.; reset csg.

DOBROWOLSKI POOL—BEXAR COUNTY

Gatlin Oil Co.'s No. 7 I. A. Beck, 150 ft. SW line, 1,351 ft. SE line of tract, Montez Sur.	Rigging up.
Patton & Yocum's No. 1 T. Strunk, 1,351 ft. from SE line, 150 ft. from NE line of tract	T. D. 727 ft.; installing pump.
W. S. Rogers et al's No. 1 L. Donnop, Juan Montez Sur.	T. D. 612 ft.; shut down.

BRUNER POOL—CALDWELL COUNTY

Joe Bruner's No. 1 Malone, A. Floyd Sur.	T. D. 525 ft.; drlg.

LYTTON SPRINGS—CALDWELL COUNTY

J. A. Herper's No. 4 Strawn, 150 ft. from N and E lines of tract in Pablo Martinez Sur.	T. D. 1,312 ft.; drlg.

EDDINGTON POOL—FALLS COUNTY

Eddington et al's No. 3 Llewellyn, George Allen Sur.	T. D. 1,070 ft.; fishing.

DARST CREEK FIELD—GUADALUPE COUNTY

Magnolia Pet. Co.'s No. 3 M. T. Klein, 300 ft. SE of No. 1	T. D. 1,600 ft.; drlg.

CHAPMAN POOL—WILLIAMSON COUNTY

Chapman et al's No. 2 Lawrence, S. Miller Sur.	T. D. 1,916 ft.; set 6⅝-in. csg.; waiting on cement.
Vitex Oil Co.'s No. 8 Kilgore, Simon Miller Sur.	T. D. 1,735 ft.; waiting on cement.

PETTUS AREA—BEE COUNTY

J. M. Davis et al's No. 1 Ray, 330 ft. from N and E lines of John W. Williamson Sur.	T. D. 3,925 ft.; set csg. after testing 4 fourbles of oil in 10 minutes.
J. L. Mauldin's No. 1 fee, 1,300 ft. N of S line, 150 ft. E of Medio Creek, Kerr Sur.	T. D. 3,862 ft.; set csg.; waiting on cement.
United Prod. Co.'s No. 37 Ray, 3,300 ft. from SW line, 996 ft. from SE line of Willis A. Moore Sur.	T. D. 3,415 ft.; drlg.

CARTWRIGHT POOL—LIVE OAK COUNTY

Houston Oil Co.'s No. 23 Cartwright, 691 ft. N. 30° E of No. 11	T. D. 3,565 ft.; drill stem test showed 250 ft. oil in 8 minutes.

(Continued on Page 89)

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks:
Glen Mathis, trustee's No. 1 Martin, 150 ft. to NE line, 2,640 ft. to SE line of tract in Jose Antonio Navarro Sur.	T. D. 1,618 ft.; drlg.

BLANCO COUNTY

Hardy-Silton's No. 1 McMillan	T. D. 696 ft.; drlg.
Lilies-Adams et al's No. 1 Stanford, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T. D. 970 ft.; standing.
McCleary et al's No. 1 Schenling, 900 ft. to SE line, 600 ft. to S line of J. A. Rouse No. 118 Sur., 4 miles SW from Blanco City	T. D. 574 ft.; shut down.
J. R. Meek's No. 1 Walker, 360 rds. from W line, 482 rds. from S line of 375-ac. tract in Sur. No. 32	T. D. 1,078 ft.; fishing.
C. Rosenfield's No. 1 Hohenberger, 800 ft. to W line, 1,260 ft. to N line, Sur. No. 94	T. D. 712 ft.; shut down.

BASTROP COUNTY

Schimmel & Batts' No. 1 J. E. Ferguson, 160 ft. from NW line, 1,600 ft. from NE line of tract in J. Doyle Sur.	T. D. 2,717 ft.; set csg. at 1,460 ft.
Smith & Barnes' No. 1 Marberger, 50 ft. W line, 1,360 ft. S line of tract in King & Millet Sur.	T. D. 227 ft.; drlg.

BELL COUNTY

Mildon Oil Co.'s No. 1 J. K. Edds, Maxiano Moreno Sur.	T. D. 519 ft.; drlg. shale.
C. O. Alford's No. 1 A. L. Keifer, 150 ft. from S and W lines of tract in Woodford Sur.	Location.
Vilas Oil Co.'s No. 1 B. F. Whittington, 9 miles E of Holland	T. D. 1,298 ft.; drlg.

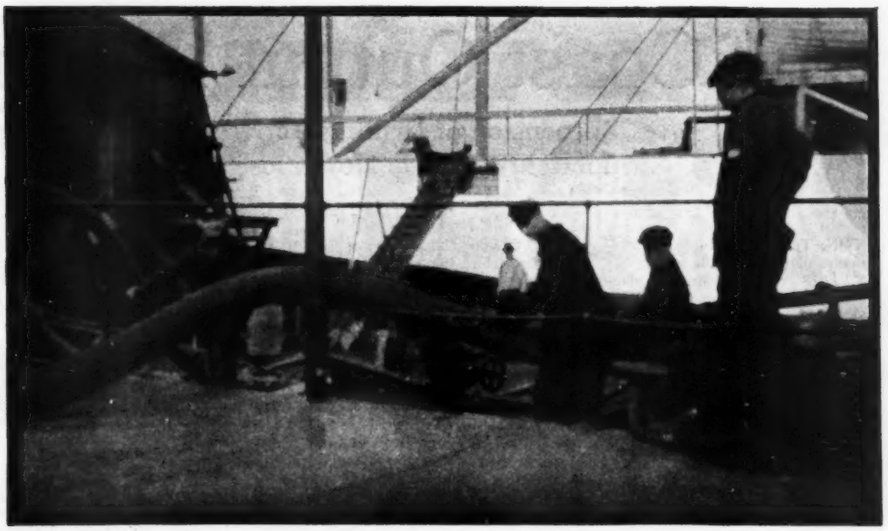
BROOKS COUNTY

O. C. Woods' No. 1 J. G Ramos, 959 ft. to E line, 788 ft. to S line of Tract 10, Blk. 3, Amos Dinn Subd., La Lestena grant	T. D. 200 ft.; drlg.
Ike Howeth's No. 1 Singer, 400 ft. E of Humble's No. 1 Singer	T. D. 1,463 ft.; making drill stem test.
The Texas Company's No. 1 Allen, San Antonita grant.	T. D. 1,808 ft.; abnd.

BEE COUNTY

Alexander et al's No. 1 McFall, 3 miles S Skidmore	T. D. 1,475 ft.; standing.
Grebin & Woods' No. 1 Riggs, 4,800 ft. to E line, 200 ft. to N line of James Nowland Sur., 6 miles W of Skidmore	T. D. 272 ft.; drlg.
Mauldin et al's No. 1 Kimball, 300 ft. S Grayburg's No. 1-A Kimball, S. Winship Sur.	T. D. 3,544 ft.; pulled lines.

(Continued on Page 89)



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Goodyear Compass (Cord) **— Oil Well Belt — this belt is made endless up to 125 feet — it has a splendid record in drilling service and on band-wheel powers**

Goodyear Thor (Fabric) **— Oil Well Belt — a rugged silver-duck construction — covered edges — safeguarded from center strain by a unique seamless construction**

800 bbls. per hour at 50 lbs. pressure— temperature 120°

Discharging oil from tankers is a long jump from oil well drilling. But Goodyear makes products in rubber that help in both these operations, besides many others throughout the oil industry.

The picture shows a close-up of a 6″ Goodyear Oil Suction and Discharge Hose discharging a tank ship. The 4″ hose at the left leads from a Y nipple inserted in an 8″ hose. The installation has a capacity of 800 bbls. per hour of heavy asphaltum oil heated to 120°.

Some idea of the number of places where Goodyear Mechanical Rubber Goods serve the oil industry can be gained from the panel on the left. Each one of these products is accurately specified to its work by the G. T. M. —Goodyear Technical Man. He knows belting for band-wheel powers and drilling as well as he knows oil hose. He can save money for you as he has for others. To see the G.T.M., just write to Goodyear, Akron, Ohio, or Los Angeles, California.

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Gulf Coast Output Declines Steadily

Suspension of Drilling Activity Shows Its Effect on Production Which Is Now Close to Commission's Allowable

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., June 15.—The gradual suspension of development which has been taking place on the Gulf Coast for several months is being reflected noticeably in the fewer and fewer wells which are being completed each week. This was felt the past week when no wells of particular importance were brought in. The slowing up of drilling, however, is resulting in a steady decline of production, which operators have sought to obtain by let-up in field work. The daily output of coastal fields now is under 145,000 bbls. daily and within only a few thousand barrels of the allowable of 140,000 bbls. as designated by the State Railroad Commission.

Of some interest to operators in the Lockport district was the comparatively poor showing made by Yount Lee Oil Co.'s No. 2 Miller in the northwest extension district. Considering its location, only a short distance from and midway between two good producers, operators had expected this test to make a good well, but on washing and bailing it flowed only at the rate of 400 bbls. of fluid, 50 per cent water, 250 pounds working pressure, through a three-eighths inch choke.

This well is typical of the uncertain conditions in Gulf Coast development. It is just south of the discovery well of that area, Yount Lee Oil Co.'s No. 1 Miller, which was completed last November flowing 1,080 bbls. of pipe line oil through a three-eighths inch choke. It is a north offset to Union Sulphur Co.'s No. 2 Martha Ross, completed in April flowing 2,500 bbls. of pipe line oil through a three-eighths inch choke. Vacuum Oil Co.'s No. 9 Bordages, east offset to the discovery well, also made a good producer, flowing 1,250 bbls. of pipe line oil through a three-eighths inch choke. All these wells have proved consistent producers and the area has been looked upon as more favorable for prolific production than the main Lockport Field, three-quarters of a mile to the east.

The only failure in that area has been Vacuum Oil Co.'s No. 9 State, west offset to the discovery well, which tested salt water sands at 6,567 feet and 6,628 feet. It still is not as low as Yount Lee Oil Co.'s discovery well, which it offsets, and which is producing from sand at 6,679-6,706 feet, and it now is drilling deeper. The discovery well, however, is the deepest well in the area as the others are in sands ranging from 6,525 feet to 6,545 feet, the latter depth being the bottom of the latest completion, Yount Lee Oil Co.'s No. 2 Miller, which topped the sand at 6,527 feet.

In Barbers Hill Pool

At Barbers Hill, Humphreys Corp.'s No. 5 E. H. Winfree, west flank, was completed flowing 1,250 bbls. of pipe line oil daily, 460 pounds working pressure, through a five-eighths inch choke from sand at a total depth of 5,540 feet. This well is in proved territory and one of a series of similar wells which have been brought in on the west flank of the dome within the last several months. The wells now being completed there are bringing to an end an active line fight drilling play which not many weeks ago was adding new wells in rapid succession and running up coastal production figures. During the peak of development there, Barbers Hill production climbed to nearly 32,000 bbls. daily, a record for that field, but the slowing up of operations since then has resulted in a decline to 23,600 bbls., with the production still dropping.

Only eight wells are actively drilling on the west flank of Barbers Hill as against 15 to 18 during the active period two months ago. Of the eight, three probably will finish work during the coming week, these being Rio Bravo Oil Co.'s No. 2 Fisher, Yount Lee Oil Co.'s No. 3 Winfree and The Texas Company's No. 2 Winfree. The latter well was completed two weeks ago but now is working over. All three are on the producing horizon and should be the next completions.

Deep Completions at Refugio

Early in the week, two addition wells were completed in the 6,400-foot horizon at Refugio, these being Moody-Seagraves Producing Co.'s Nos. 3 and 6 Morgan-O'Connor, the former flowing 300 bbls. of pipe line oil daily at 6,431-42 feet and the latter 400 bbls. daily at 6,405-16 feet. Both are within the main part of the 6,400-foot field.

Mission Drilling Co., however, failed to make a well in its No. 2 Moss-Powers, center of Block 109 of the townsite, which was abandoned as dry following test of sand at 6,350-6,400 feet. It previously had been drilled to a total depth of 6,502 feet and plugged back. This well is an east offset to No. 1 Moss-Powers, one of the first 6,400-foot wells at Refugio, and a north offset to another 6,400-foot well, Luling Oil & Gas Co.'s No. 1 Talman. Its abandonment is another illustration of irregularities which have been faced at Refugio and other coastal fields.

Deep Failure in Matagorda

Empire Gas & Fuel Co. has abandoned its deep wildcat, No. 1 Boker, J. J. Griswell Survey, Citrus Grove, Matagorda County. This test, the first drilled on that geophysical salt dome prospect, went into heaving shale to a total depth of 6,460 feet where further drilling was prevented. This test created considerable interest last November when it blew out from a sand at 6,248-52 feet. After the well had been killed and stuck drill stem successfully pulled, 46 feet of 7-inch screen was set 14 feet off bottom but the well tested hot salt water. The hole then was deepened to its present depth. Several gas showings have been encountered, although the one at 6,252 feet was the most important.

Four other tests were abandoned during the week. At Bayou Des Glaise, Standard Oil Co. quit its No. 9 Wilbert in salt at 4,048 feet. The salt was topped at 3,928 feet. At Sulphur, Union Sulphur Co.'s No. 765 Fee has been quit at 4,330 feet after testing salt water. O'Hare and associates' No. 1 Schrader, Austin County, has been junked at 3,920 feet and Mid-South Oil Co.'s No. 1 Duckworth, Burleson County, has been abandoned in salt water sand at 3,073 feet.

In Victoria County, T. B. Slick estate still has failed to complete its No. 1 McFaddin, J. Vairan Survey, a wildcat test showing for a gas well. In a sand at a total depth of 3,512 feet the well two weeks ago tried to blow in, blowing tubing up into the christmas tree and breaking connections. The well was killed, connections repaired and screen and tubing reset. On being washed, the well again blew in but loosened the screen, necessitating killing the well again. A drill stem test several weeks ago showed 650 pounds pressure through a three-eighths inch choke. The past week it showed 250 pounds through a half-inch choke. Twenty-one feet of 4¾-inch screen is in the sand.

This wildcat is 3½ miles to the north of United Production Corp. and Lion Oil & Refining Co.'s two wildcat gas wells in the Maria Traviesa Survey, between Bloomington and Marianna. United Production Corp.'s No. 4-A McFaddin, located nearly a half mile to the northwest of its two gas wells and between them and the Slick well, is drilling below 3,100 feet. Sand in the two gas wells is at approximately 3,740 feet.

Telschaw, Cady and associates' No. 5 Blakely, north side of Blue Ridge, set 40 feet of 4¾-inch screen in sand at a total depth of 2,993 feet but flowed only mud with a showing of oil. Screen is being pulled to deepen.

Gulf Production Co. is rigging up for a test of its Kishi lease on the north end of the Orange Field. The test, No. 1 Kishi, is located in the J. Dyson Survey, 378 feet from the east line and 234 feet from the south line of the tract. The test is in an undeveloped sector and is being drilled at this time chiefly to determine whether to drop or renew the lease, which is near expiration.

Wildcat in Brazoria County

United North & South Oil Co. is moving in a rig for a wildcat test in southwestern Brazoria County. This test, No. 1 Daisy B. Lewis, is located in the S. F. Austin 5 League, 568 feet south and 325 feet east of the northwest corner of the 100-acre tract, north of the town of Brazoria. This is on a block of more than 3,000 acres which this company acquired sometime ago. The rig is being moved from Colorado County where the company recently abandoned a wildcat, its No. 1 Lockwood, after drilling to 5,585 feet.

At Pierce Junction, Bob Smith and associates went back into their No. 3 Fee, Lot 40, B.B.B.&C. Survey No. 1,028, northwest flank of the dome, sidetracked the old hole at 3,717 feet and drilled to sand at 3,770 feet, where the well was completed flowing 500 bbls. of pipe line oil through a three-eighths inch choke. The well has been completed early in May as a 15-bbl. pumper in sand at 4,469 feet.

Republic Production Co. has deepened its No. 136 Dolbear at Hull at 2,228 feet and completed it flowing 350 bbls. of fluid, 10 per cent oil.

GULF COAST FIELDS AND WILDCATS

Week Ended June 13
All Rotary

BARBERS HILL—CHAMBERS COUNTY

Gulf Prod. Co.'s No. 4 Wilburn (D.D.), Henry Griffith League, 1,400 ft. W line and 50 ft. S line of lease	Drlg. sandy shale 5,366 ft.
Humphreys Corp.'s No. 5 E. H. Winfree, W. D. Smith Sur., 854 ft. from S line and 50 ft. from W line	Set 136 ft. 5-in. screen 5,540 ft.; comp. 1,250 bbls. pipe line oil, 460 lbs. pressure, ⅝-in. choke.
Humphreys Corp.'s No. 6 E. H. Winfree, W. D. Smith Sur., 50 ft. from N line and 50 ft. from W line of tract	Total depth 3,827 ft.; trying to straighten hole.
Humphreys Corp.'s No. 2 T. S. Fitzgerald, Henry Griffith League, 300 ft. from N line, 65 ft. from E line of tract	Drlg. sticky shale and lime 4,796 ft.
Humphreys Corp.'s No. 1 Fitzgerald-Meadows, Henry Griffith League, 50 ft. S and 100 ft. E of NW cor. of tract	Drlg. salt 1,940 ft.; top salt 1,397 ft.
Mills Bennett Prod. Co.'s No. 1 Gulf-Fisher (workover), William Bloodgood Sur., 50 ft. from SW line and 250 ft. from SE line tract	Total depth 5,344 ft.; plugged to 4,635 ft.; milled out and sidetracked to oil sand 5,227-57 ft.; reaming.
Mills Bennett Prod. Co.'s No. 4 Gulf-Fisher, Wm. Bloodgood Sur., 300 ft. from W line, 80 ft. from N line tract	Drlg. rock 1,390 ft.
Rio Bravo Oil Co.'s No. 2 Fisher, west flank	Coring sand showing oil 5,385 ft.
Sinclair Oil & Gas Co.'s No. 3 Smith, W. D. Smith Sur., 50 ft. out of S cor. of tract	Drlg. lime rock 4,115 ft.
Sun Oil Co.'s No. 2 Smith, W. D. Smith Sur., 75 ft. from W line, 50 ft. from N line of tract	Drlg. rock 4,658 ft.
Sun Oil Co.'s No. 3 Smith, W. D. Smith Sur., 50 ft. from S line, east offset Yount Lee Oil Co.'s No. 3 Winfree	Drlg. rock 4,521 ft.
Sun Oil Co.'s No. 2 Winfree, W. D. Smith Sur., 450 ft. SE along SW line from NW cor. of tract and 50 ft. NE at right angles	Losing returns 3,621 ft.
Sun Oil Co.'s No. 1 Anna Higgins, Wm. Bloodgood Sur., 330 ft. from E line and 31 ft. from S line 10-acre tract	Drlg. rock 1,720 ft.
The Texas Company's No. 2 Winfree, west flank, W. D. Smith Sur., 264 ft. N, 50 ft. W at right angles out of SE cor. of lease	Pulling screen to deepen 5,622 ft.
The Texas Company's No. 4 Wilburn (D.D.), Henry Griffith League, approximately 1,700 ft. from W line and 50 ft. from S line of tract	Total depth 5,292 ft.; sidetracked 5,134 ft. to sand 5,188 ft.; cmtd. csg. and screen; to test.
The Texas Company's No. 6 Wilburn, Henry Griffith League, 250 ft. W of No. 4 and 50 ft. from S line of lease	Drlg. shale 2,615 ft.
Yount Lee Oil Co.'s No. 9 Chambers (D.D.), Wm. Bloodgood Sur., 550 ft. from N line and 1,660 ft. from W line of tract	Tested salt water 5,515 ft.; standing.
Yount Lee Oil Co.'s No. 2 Winfree, W. D. Smith Sur., 190 ft. out of NE cor. of tract	Drlg. sand and shale 5,286 ft.

RACCOON BEND—AUSTIN COUNTY

Humble and Valley's No. 1 Martha Bemmert	Location.

HUMBLE—HARRIS COUNTY

Rio Bravo Oil Co.'s No. 2 H.E.&W.T., Adams Sur., 350 ft. N along railroad tract from No. 1 and 25 ft. W from center of said tract	T. D. 4,742 ft.; plugged to 3,500 ft.
Rio Bravo Oil Co.'s No. 1 Westheimer, John Brown Jones One-Third League, 800 ft. from E line and 100 ft. from S line of Blk. 1, in Lot 48, Westheimer Subd.	Location.
Sun Oil Co.'s No. 24 Bender, W. B. Adams Sur., 24 ft. N of Rio Bravo's No. 2 H.E.&W.T. on Sun's east line	Shut down 2,147 ft.

(Continued on Page 89)

The BRIDGEPORT Shopper's PAGE

DO YOU KNOW that you can materially reduce your overhead charges by using Bridgeport Rental Service? Also by making full use of our Dependable Used Tool Department, in which you will find many special bargains. Bridgeport, as usual, is the leader in doing its part to help you save money. and operate your business in accordance with the present business conditions.

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A complete used Rotary sold from our Pampa store, for Moore County, Tex.

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Special shipment of New Type Swan Underreamer to Canada.

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One good used 4 or 5 inch Portable Rotary.

One 6" Union Tool, Johnson or Lucey Drawworks.

One 4 sheave 66" Traveling Block.
One 6-inch Rotary Hook.
10,000 ft. 2-inch line pipe.

Carload of 6⅝" 24-lb. Seamless Casing. Give location and condition. Must be low enough to allow hauling and reasonable selling profit.

USED CASING AND DRILL PIPE AT KILGORE, TEXAS

1500 ft. 10"—35 lb. Lapweld, $1 per ft.
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3,000 ft. 7" O.D. 24-lb. Lapweld First Run ..... .60 ft.
3600 ft. 4"—16.6 Drill Pipe, with Tool Joints on, Singles, at.....$1.10 per ft.
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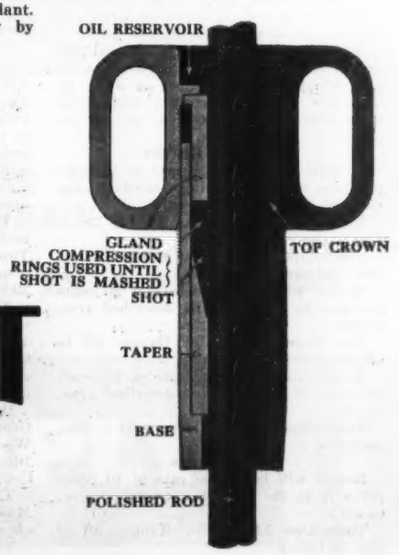

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Northeastern Colorado Getting Play

Grand County, Utah, Wildcat Has 600 Feet of Oil in Hole. Midway Dome, Wyoming, Showing Favorable. Montana Gas Wells

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., June 15.—Hobbs pipe line runs in May aggregated 1,146,353 bbls. The only well drilling in the pool has been completed and is waiting for proration test. The commissioner of the state land office has issued a list of new districts and minimum rentals. Most of the New Mexico wildcats are shut down.

Lease deals, progress of drilling wells, incorporation of new companies and the appearance of numerous Mid-Continent scouts is attracting attention to the northeastern Colorado area. Lincoln County wildcat has show of oil and gas as it is being cleaned to bottom to renew drilling. There were no completions or new wells started in Colorado.

Utah's principal wildcat in Grand County, being drilled by the Utah Southern Oil Co. has 600 feet of live oil standing in the hole and will be tested.

The Midway Dome test in Wyoming is showing up favorably following plugging back to test and flowed at the rate of 40 bbls. an hour. The F. T. Griffith operation on the Garland Dome is killing a flow of 40,000,000 feet of gas to continue to the Madison lime. The Producers & Refiners' Muskrat Dome deep test is reported to have water in the Muddy sand. One failure was reported in the Osage Field.

The Ohio Oil Co.'s second test on the Dry Creek structure appears to have run into a fault and failed to find commercial production in the Dakota. It is drilling towards the Lakota. Montana Power interests are starting three more wells in the Cut Bank Field. One well was abandoned in the Barthelote district.

NEW MEXICO

Pipe line runs from the Hobbs Pool in May aggregated 1,146,353 bbls., a daily average of 36,979 bbls., 1,887 bbls. short of the allowable outlet for the month. Due to there being no change in the number of wells and pipe line nominations, the May proration figures are in effect for June. There are no wells drilling in the Hobbs Pool. The last well, the Midwest Refining Co.'s No. 26 Capps, C SE SW, Section 3-19-38, in the southeastern part of the field, was completed at a total depth of 4,188 feet and is shut down for proration test.

State Land Commissioner J. F. Hinkle posted the rentals under the new leasing law, which goes into effect on June 12. The new districts, together with minimum rentals for each area, are as follows:

Restricted District

Rentals will be at the rate of 50 cents per acre in the following described area, to-wit:

Townships 16 to 20s, Ranges 28 to 38e, inclusive.

Townships 21 to 26s, Ranges 34 to 38e, inclusive.

Rental will be at the rate of 25 cents per acre in the following described area, to-wit:

Townships 11 to 15s, Ranges 34 to 38, inclusive.

Rental will be at the rate of 10 cents per acre in the following described area, to-wit:

Townships 3 to 10s, Ranges 34 to 38e, inclusive.

Other Lands

Rental will be at the rate of 10 cents per acre in the following described area, to-wit:

Townships 11 to 15s, Ranges 28 to 33e, inclusive.

Townships 16 to 29s, Ranges 25 to 27e, inclusive.

Townships 21 to 26s, Ranges 31 to 33e, inclusive.

Rental will be at the rate of 15 cents per acre in the following described area, to-wit:

Township 15n, Ranges 5 to 10w, inclusive.

Township 16n, Ranges 5 to 13w, inclusive.

Townships 17 to 19n, Ranges 8 to 13w, inclusive.

Townships 20 to 28n, Ranges 12 and 13w.

Townships 27 and 28n, Ranges 5 to 13w, inclusive.

Townships 29 and 30n, Ranges 5 to 16w, inclusive.

Townships 31 to 32n, Ranges 5 to 13w, inclusive.

Rental will be at the rate of 5 cents per acre on the remaining lands which are not described.

Lea County

Leonard & Levers' No. 1 Justis, C SE NE, Section 19-25-37, in the Jal area, which encountered gas that blew the tools through the derrick and damaged the rig, is preparing to resume after repairing the damage. The total depth is 2,755 feet. The gas had increased to 6,000,000 feet when operations were suspended. Culberson & Conrad's No. 1 State, C NE, Section 22-18-34, Caprock area, is rigging up rotary. Total depth is 1,724 feet. The 10-inch was cemented on bottom. Western Drilling Co.'s No. 1 State, SE NE NE, Section 16-20-32, northwest of Lea, is drilling at 2,125 feet in salt.

None of the wells in Eddy and Chaves Counties reported any progress the past week and, like most of the wildcats in Lea County, are shut down.

De Baca County

Matador Oil Co.'s No. 1 Wood, NE SW SW, Section 6-4n-20, Salada Creek, is bottomed at 3,175 feet in red rock and underreaming the 6⅝-inch.

Luna County

Angelus Oil & Mining Co.'s No. 3 State, C NW SE, Section 20-21-10w, near Deming, is shut down at 6,100 feet.

Torrance County

J. B. Witt Oil & Gas Co.'s No. 1 Kutchin, NE SE SW, Section 12-7n-7e, McIntosh district, which was drilled to 1,440 feet and plugged back to 1,245 feet to save a show of 100,000 feet of carbon dioxide gas, is shut in. Witt Ice & Gas Co. has been organized by the same intests with the purpose of exploiting the gas for the making of dry ice.

San Juan County

Reserve Oil Co.'s No. 3, NW SE SE, Section 36-27-14w, Stoney Butte, has underreamed 6⅝-inch to bottom at 748 feet and has about 100 feet to go to reach the objective sand. H. L. Williams' No. 1 Stallings, NW SW, Section 17-25-15, Rio Chaco district, is bottomed at 135 feet and preparing to run 15½-inch.

COLORADO

Weld County

The Greasewood Dome operation of Reiter-Foster Oil Co. in its No. 1 Ida Johnson, C NE NW, Section 24-6n-61, in Weld County, an offset on the north to the discovery well and a joint operation with the Platte Valley Petroleum Corp., holds the center of interest in Colorado at this time as it draws near the objective horizon. It is making fast time with rotary bit and on Tuesday afternoon was drilling at 4,920 feet. At the present rate another week will put it below 6,000 feet after which there will be a short delay to change over to cable tools. The discovery well, it will be recalled, did not drill into the sand according to the log, and while it has held steadily at around 350 bbls. per day since last October, it is not known just what might result if it was deepened. The prevailing opinion is that a much larger well might result while some point out the possibilities of big gas. The Reiter-Foster well is considered an important operation under the circumstances.

An increase in the number of scouts in eastern Colorado is noticeable and the Mid-Continent and Texas operators appear to be manifesting a special interest in the new territory. Several new corporations have been formed in the past few weeks with the intentions of drilling. One of these is the Colorado Crude Oil Purchasing Co., with C. M. Smith, Buren B. Day and George Vincent as directors. Another is the Northern Colorado Oil & Gas Co., with M. P. Rowlette, Douglas A. Roller, H. S. Class, David F. How, Jr., and Lowell White as directors. The Eureka Syndicate has been formed as a common law trust with P. V. Holland, Everett E. Trout and Ross L. Heaton as trustees.

The Reiter-Foster Oil Co., which is drilling the Ida Johnson well, and which has an interest in the block being drilled by the Indian Territory company in Morgan County, has placed on record an operating agreement closed last April on the 320-acre E. E. Behring tract in Section 23-6n-61, the section to the west upon which the discovery well is located. The tract consists of the NE, W half SW, NE SW, and NW SE of Section 23. It is a co-operative drilling agreement on a 70-30 basis, with Behrings' share to come out of production and no royalty obligations. A well is to be started within six months, but in lieu thereof a rental of $200 a month can be paid up to the end of 15 months by which time one well must be started. A second well has to be started within five years and by the end of eight years there must be a well on each 40 acres. Six months after the first producer is completed, Behring has an option to change over to a regular producers lease on a one-eighth royalty basis.

Morgan County

Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE, Section 16-1n-57, Fort Morgan anticline, the same line of folding upon which the Greasewood operation is located, but 25 miles to the southeast, is bottomed at 4,090 feet and rigging up rotary tools. The 8¼-inch is at 3,650 feet. The 6¼-inch, which could not be landed, was pulled, and cleaning out below the 8¼-inch to bottom will require some time before new hole is made.

Lincoln County

Eastern Colorado Oil Co.'s No. 1 State, SE cor. NW, Section 36-14s-57, Hugo district, taken over recently at a total depth of 3,380 feet from the Kelly Oil Co., has reamed to 3,000 feet and the hole is full of oil, supposedly coming from the bottom where it had a show when drilling stopped a year ago, and is showing considerable gas. While there are no evidences at the surface of a structure, the well had very encouraging shows under the old management and is believed to be bottomed less than 100 feet off the first Dakota.

Arapahoe County

MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE. Section 7-4s-66, near Aurora, is shut down for casing at 5,835 feet. About 3,000 feet of 4¾-inch has been delivered at the well and preparations are being made to begin running the

(Cntinued on Page 95)

TWO NEW WELLS IN MT. PLEASANT FIELD, MIDLAND COUNTY, MICHIGAN

By Paul A. Elliott

MUSKEGON, Mich., June 13.—Two new wells, one in the newly developing section east of the original Mount Pleasant Field and the other near the first wells with which the field was opened three years ago by the Pure Oil Co. were completed in Michigan last week.

The Gordon Oil Co.'s No. 1 Noah J. Skinner, SW SE, Section 9-14n-2w, Greendale Township, Midland County, is the larger of the two, making 250 bbls. initially at a total depth of 3,567 feet. Dundee limestone was topped at 3,499 feet and pay sands at 3,530 feet.

The other is the Pure Oil Co.'s No. 1 Alvin Anthony, NE SW NE, Section 17-14n-2w, Greendale Township, Midland County, which is good for 15 to 20 bbls. in the Dundee at a total depth of 3,560 feet. Limestone was topped at 3,489 feet and pay sands at 3,520 feet but the formation was too hard to make a large producer.

The Glennbrook Oil Co.'s No. 1 Glen well, SW SW, Section 32-1n-4e, Putnam Township, Livingston County, has been temporarily abandoned at a depth of 2,290 feet in the Bass Island formation.

No other completions were reported in the State and not more than 20 rigs are drilling including 14 in Isabella, Midland, Clare, Huron and Bay Counties in and east of the proved Mount Pleasant area in central Michigan.

One new permit was issued as follows: George Talbot and others' No. 1 George Woods, S half S half NW, Section 22-16n-4w, Vernon Township, Isabella County.

Three more old producers in the proved Muskegon Field are being plugged and abandoned.

They are the Muskegon Oil Corp.'s No. 1 Albert Heinz well in Section 8, Muskegon Township, the Johnson Oil Refining Co.'s No. 1 Charles I. Giles well in Section 6, Muskegon Township, and Nelson & Witt, Inc.'s No. 2-A George Fenner in Section 11, Laketown Township.

An Indiana Wildcat

A new well is being started near Bristol, Ind., just south and across the line from a small upper Traverse producer completed 15 months ago in Cass County, Michigan, which latter recently increased in production to about 20 bbls. of oil and 100,000 feet of gas daily.

The Cass County well is Blair & Miller's No. 2 Stutsman. The oil is being purchased at 60 cents a barrel by the county highway department.

Standard's Final Shipment

Standard Oil Co. of Indiana's last cargo of crude oil from the Muskegon Field left the Muskegon Harbor last week destined for Standard refineries at Whiting, Ind.

Barge C with a load of about 27,000 bbls. of crude including thick oil which was removed from the bottom of the 80,000-bbl. storage tank of the Standard of Indiana in the Muskegon Field was towed out of the harbor by the Beaumont Parks, Standard tanker.

No oil has been run in the field by the Stanolind Oil & Gas Co., formerly the Dixie Oil Pipe Line Co., since May 5 when sections of its gathering system and production were sold to the Naph-Sol Refining Co.

The Naph-Sol company and two other independent refinery operators, the Old Dutch Refining Co. and the H. H. Cross Refining Co., are now running the entire production of the field which is averaging about 1,800 bbls. a day.

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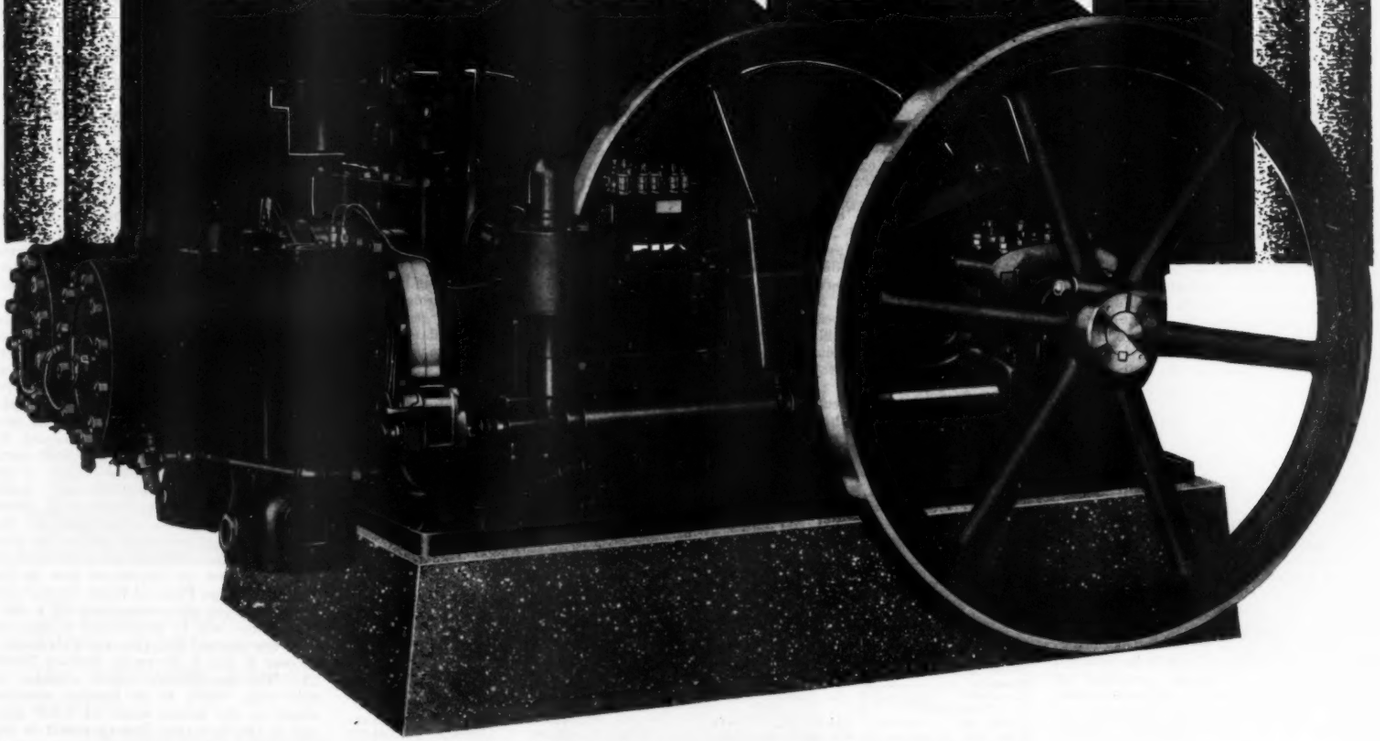

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PUMPING OF WELLS 4500 TO 8000 FEET DEEP

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THE NATIONAL SUPPLY COMPANIES

Big Wells Boost California Production

Efforts to Reduce State's Output Retarded. Higher Prices Will Be Announced When Curtailment Goal Is in Sight

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., June 13.—Crude oil production in California only registered a relatively small decline during the past week in spite of attempts to reduce state production to the new allowable established by the recently adopted curtailment program. Current production reflected the completion of several large flowing wells during the period in question and this resulting new production partially offset some of the additional curtailment effected. It is quite likely, however, that production for next week will be somewhat lower than current production as operators have been rather slow in meeting the new allowable due to the uncertainty of the future price structure. Members of the Oil Producers Sales Agency have been notified by that organization to reduce production to their respective allowables on or before June 13 and this action will be reflected in state production for the week ending June 20. The Oil Producers Sales Agency has been exceedingly busy during the past week negotiating sales contracts for producers who have hitherto been unable to dispose of production for various reasons.

The general committee has deemed it advisable to wipe the slate clean of all cumulative excesses which accrued previous to June 1. This action will make it easier for producers to comply with the new curtailment program as a number of operators would be unable to continue production if obliged to absorb cumulative excesses from current production. This action is especially significant because it will prove conclusively whether operators are in sympathy with the existing curtailment program which is being sponsored in the hope of effecting stabilization. If California producers had succeeded in reaching their objective and reduced production in accordance with the present curtailment program, an increase in crude and refined oil prices would already be in effect. Major companies have been anxious for some time to restore a substantial portion of prices existing before the advent of the prevailing gasoline war but have been unable to do so because of a decline in consumption and a resulting lower demand for crude oil. It appears quite probable that prices of crude and refined oils will be restored in the very near future, provided of course that production is reduced in conformity with the maximum allowable established by the recent economic survey.

Kettleman Hills

Three new wells were completed in the Kettleman Hills Field of Kings County during the past week and several more are expected to be finished within the next 30 days. Operators in this field have tentatively ratified the proposal to limit the daily production of this field to a maximum of 60,000 bbls. per day. Several minor details remain to be adjusted but these are expected to be worked out shortly. The Kettleman North Dome Association headed the completion list at Kettleman Hills by finishing two new wells which registered an aggregate initial daily production of 12,500 bbls. The association's No. 27-34J in Section 34-21-17 came in under a natural flow doing 6,500 bbls. of clean 43.2 gravity oil initially from 8,043 feet, the 8⅝-inch water string having been landed and cemented at 6,420 feet.

The association's No. 2-1P in Section 1-22-17 was brought in flowing 6,000 bbls. of clean pipe line oil from 8,367 feet. The completion of these two new wells, both of which were originally started by the Pacific Western Oil Co., gives the Kettleman North Dome Association five wells with a current daily production of 19,735 bbls. The three remaining wells, No. 41-2P, No. 1-12P and No. 88-2P, are flowing 4,350 bbls., 1,675 bbls. and 1,210 bbls. per day, respectively. It is the present intention of the association to kill No. 1-12P because of the present excessive gas oil ratio and ultimately carry it down to the deep Ochsner zone. No. 88-2P, the Milham Exploration Co.'s discovery well in Section 2-22-17, may be permitted to remain on production indefinitely as this well was granted a preferential right by the Kettleman North Dome Association because of contractual obligations and the unfavorable condition of the hole from a mechanical standpoint.

The Standard Oil Co. successfully finished No. 32-3P, a new well in Section 3-22-17, early this week and boosted its current daily production to 21,430 bbls. The Standard's latest completion, bottomed at 7,786 feet and finished with a 7-inch oil string carrying 517 feet of perforated, registered an initial daily production of 3,830 bbls. of clean 36.2 gravity oil and 12,500,000 feet of natural gas. This well, the Standard's fifth completion in the North Dome, is flowing through a 1-inch bean under a pressure of 260 pounds on the casing and 440 pounds on the tubing. The Standard's other wells in this field are No. 21-33J, flowing 9,370 bbls., No. 8-1P, doing 1,975 bbls., No. 81-11P, 1,675 bbls., and No. 21-7Q, doing 4,580 bbls. per day. The company recently killed No. 88-35J and work is already under way preparatory to carrying this project down to the Ochsner zone. Just prior to being killed, this well was flowing 1,490 bbls. of 59.6 gravity oil and 52,400,000 feet of natural gas per day from the Elliott zone at 7,392 feet.

Legal Technicalities

Superior Judge Strother, who recently granted a temporary restraining order prohibiting the waste of natural gas at Kettleman Hills, has modified this order and its enforcement will consequently be delayed probably for several months. Several technicalities recently taken advantage of have had the effect of delaying enforcement of the preliminary injunction. The Milham Exploration Co. was successful in its attempt to secure special consideration and the status of this well will not be determined for some time to come. It was the intention of the Kettleman North Dome Association, in conformity with the temporary injunction issude by Judge Strother, to kill both this well and No. 1-12P, another project with an excessive gas oil ratio. Milham officials called attention to the fact, however, that it would be unable to comply with its contractual obligations with the Pacific Gas & Electric Co. if the company's discovery well were killed. If unable to meet requirements at Kettleman Hills, the Milham will be obliged to open up its gas wells in the Buttonwillow gas field of Kern County. This would have increased gas waste at Kettleman Hills by displacing a similar quantity of natural gas in this area, with the result that the injunction would have increased the waste of natural gas instead of reducing it.

Several additional wells are scheduled for completion in the North Dome at Kettleman Hills within the next 30 days and this group will be followed by a number of other projects now under way. The Kettleman North Dome Association is expected to finish No. 23-1P and 8-28J within the next 30 days and these two should be followed shortly after by No. 8-6Q. The Union, which is developign the King lease in conjunction with the Amerada Petroleum Corp., should finish its first well on this lease some time during the latter part of June or early in July. This well was rotating ahead at 7,975 feet a day or two ago and has approximately 400 feet to reach its projected completion depth. The bit is already in the pay and, barring the development of mechanical trouble at the last moment, substantial production should be secured. The Standard is also expected to add a new well to its list of producers in the North Dome around the end of June, as its No. 85-29J is rotating ahead in the oil sand at 8,175 feet. The Shell's No. 1 Dixon is also expected to be an early completion as this project, located fairly well out on the north flank, is rotating ahead in the oil sand at 8,615 feet.

Lost Hills-Belridge

The Associated Oil Co. focused the attention of operators on the North Belridge Field of Kern County a few days ago by completing well No. 4 in Section 34-27-20 flowing 8,768 bbls. of clean 39.5 gravity oil and 8,600,000 feet of natural gas per day. Technically, this well was drilled by the Reward Oil Co., a subsidiary of the Associated, which controls the majority of stock outstanding. This new well was bottomed at 5,510 feet and finished with a 6⅝-inch liner carrying 510 feet of perforated, the water shutoff having been effected with a string of 11¾-inch landed and cemented at 4,998 feet. The substantial production registered by No. 4 Reward proved an exceedingly agreeable surprise for, while substantial production was anticipated, the outcome exceeded even the most sanguine expectations. This was especially marked because the Belridge Oil Co.'s deep zone discovery well, No. 15 in Section 26-27-20, only registered an initial of 4,500 bbls., while the Union Oil Co.'s completion in Section 36-27-20 was only good for 400 bbls. per day upon completion.

The Associated's big well in the North Belridge Field is believed to have proved up the entire 160 acres of the Reward lease for substantial production and indicates the probability that a portion of the Union Oil Co.'s Fleishacker lease may also be in the play. Two 160-acre tracts of fee acreage owned by the Standard in Section 34-27-20 are also expected to be found productive. The Belridge Oil Co., which proved up the existence of prolific Temblor production in the North Belridge Field, owns in fee all of Sections 26, 27 and 35, a total of 1,920 acres. Only a part of these three sections are expected to be found highly productive but it is safe to assume that this company owns at least 500 acres within the productive limits of the field. The result of work conducted in this field up to the present time tends to indicate that substantial production can be expected only on the apex of the structure. The Union Oil Co.'s completion in the southern part of the field was located very favorably with respect to the structural axis but in spite of this fact only resulted in small production. The Ohio's No. 1 Bloemer, located only approximately 500 feet north of the axis in the southern part of the field, was a duster at 5,986 feet. Additional development is expected to throw considerable light on the trend of the North Belridge structure within the next several weeks. The General Petroleum is working on an important test in the South Belridge Field of Kern County and it is expected that something of a definite nature will be determined within the next few weeks. The General Petroleum's project is No. 1 Berry in Section 30-28-21. The significance which attaches to this well, which is at present rotating ahead in the brown shale at 4,760 feet, lies in the fact that it may result in the discovery of deep Temblor production at South Belridge comparable with that formation which is now producing in the North Belridge and Kettleman Hills Fields. This well is not yet deep enough to pick up the top of the Temblor but since the well is correlating quite favorably with similar tests these rocks should be picked up in the near future. If Temblor sands are found productive in the South Belridge Field, it will substantially increase the value of holdings of the Belridge Oil Co. This concern owns in fee all of Sections 28, 29, 32, 33 and 34, a substantial part of which is located within the present productive limits as far as upper zone production is concerned. The Union Oil Co. owns a 160-acre tract in fee in Section 30-28-21, in addition to several hundred acres adjoining present production. The General Petroleum has substantial holdings in Sections 2, 3, 10 and 11 in Township 29,

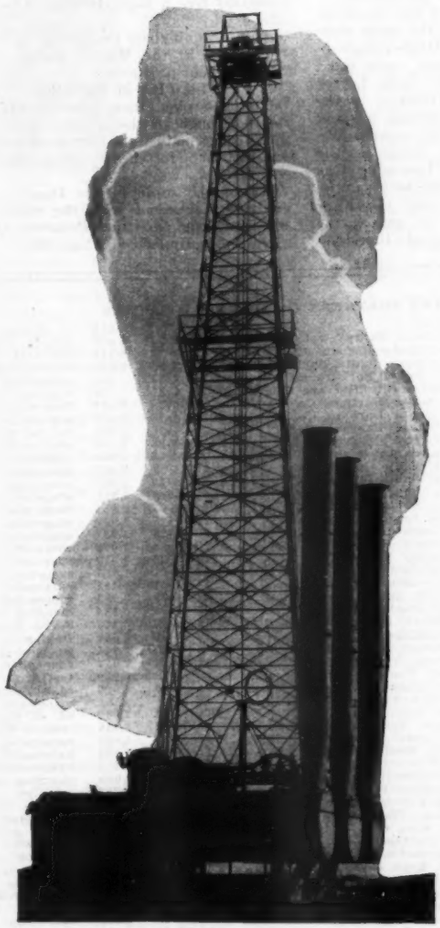
TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	.....	68,690
Fuel oil	.....	.....	.....	.....	.....	71,950
Diesel and gas oil	.....	.....	.....	.....	892,230	1,855,147
Gasoline	80,540	11,506	167,942	23,992	6,518,221	7,402,372
Kerosene	.....	.....	.....	.....	41,512	.....
Coastwise—						
Crude oil	521,934	74,562	299,985	42,855	9,485,283	6,780,664
Fuel oil	235,839	33,263	272,592	38,942	6,190,017	7,794,979
Diesel and gas oil	27,639	3,947	.....	.....	755,357	842,231
Gasoline	549,712	78,530	205,914	29,416	5,947,687	5,108,369
Kerosene	7,414	1,059	.....	.....	164,442	71,497
Naphtha distillate	.....	.....	.....	.....	4,952	.....
Exports—						
Crude oil	153,498	21,915	123,984	18,423	3,045,439	2,870,531
Fuel oil	258,735	36,962	212,520	30,360	6,680,402	8,214,787
Diesel and gas oil	53,661	11,943	123,058	17,580	1,710,347	2,075,315
Gasoline	64,343	9,178	300,576	42,939	4,393,791	6,857,174
Kerosene	85,550	12,221	102,770	14,681	784,456	1,719,978
Lubricants	.....	.....	.....	.....	18,976	19,082

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	.....	88,280
Gasoline	.....	.....	.....	.....	338,719	641,630
Lubricants	.....	.....	.....	.....	14,016	5,866
Coastwise—						
Fuel oil	33,087	11,870	.....	.....	1,840,589	1,676,022
Diesel and gas oil	.....	.....	1,539	218	160,172	152,544
Gasoline	42,891	6,099	22,638	3,234	1,240,735	1,836,179
Kerosene	4,620	660	1,877	268	122,438	.....
Naphtha distillate	.....	.....	.....	.....	49,780	119,387
Exports—						
Crude oil	.....	.....	.....	.....	77,556	3,075
Fuel oil	.....	.....	123,481	17,640	638,876	481,000
Diesel and gas oil	.....	.....	13,070	1,867	245,358	231,990
Gasoline	152,205	21,744	117,500	16,786	1,874,034	1,440,383
Kerosene	5,070	1,153	.....	.....	417,212	369,514
Lubricants	.....	.....	.....	.....	.....	18,672
Naphtha distillate	20,100	2,871	.....	.....	20,100	.....

How You Can Save 480 Barrels of Water Every 24 Hours



On drilling rigs using three 100- to 125-hp. saturated steam boilers with a working pressure of 250-350 pounds, the feed water consumption averages 2000 barrels every 24 hours.

But if these same boilers are equipped with Elesco superheaters, the water consumption is reduced 24 per cent—a saving of 480 barrels of water every 24 hours.

This large water saving is due to the higher temperature of superheated steam. At any given pressure, the higher the steam temperature, the greater the volume and expansion effectiveness of the steam and therefore the less the weight of steam required for the same work. In addition condensation losses in the line are reduced.

Reducing water consumption by 480 barrels every 24 hours permits the use of smaller, lower horsepower boilers and materially reduces the expense and difficulty of the water supply and effects a worth-while saving in boiler maintenance because of reduced scale formation.

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The Broderick Company, Muncie, Ind.
Donovan Boiler Works, Inc., Parkersburg, W. Va.
Farrar & Trefts, Inc., Buffalo, New York
Kewanee Boiler Corporation, Kewanee, Ill.
Lucey Manufacturing Corp., Chattanooga, Tenn.
Oil Well Supply Co., Oil City, Penna.
The Titusville Iron Works Co., Titusville, Pa.

THE SUPERHEATER COMPANY,
60 East 42nd Street,
New York, N. Y.

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Range 21, as well as acreage in Section 30-28-21.

Watching Test Closely

In the Lost Hills Field of Kern County, the Universal Consolidated, a subsidiary of the Richfield Oil Co., is landing a string of pipe in well No. 49 preparatory to making a production test. This well has cored approximately 125 feet of oil sand just above the 5,654-foot level and, while a formation tester was unproductive of satisfactory results, core samples indicate the possibility of developing commercial production. This well, which is located in Section 32-26-21, while not located as favorably with respect to structure as might be desired, will, nevertheless, be an important factor if even small Temblor production should be secured. The Lost Hills Field is several times larger than either North or South Belridge and would obviously exert a greater effect on production if deep prolific production should be developed. Extensive holdings are held in this field by the Universal Consolidated Oil Co., Standard, Associated and General Petroleum. Two wells are being drilled in the extreme northern part of the Lost Hills Field and, while both are located very well out on the westerly plunge, they may ultimately prove of considerable importance. These two projects are the General Petroleum's No. 1,301 in Section 13-26-20, at 3,480 feet, and the Getty Oil Co.'s No. 1 Lincoln Drilling in Section 12-26-20 at 4,077 feet.

Deep zone exploration work under way in the Lost Hills-Belridge Fields of Kern County is of special significance because of similar deep drilling now under way in the Middle Dome at Kettleman Hills. The outcome of this work is of paramount importance because if prolific deep Temblor production is developed in these additional areas it may precipitate another crisis and consequently retard recovery and prevent stabilization for several years, unless drilling and production activities were controlled either by mutual or compulsory regulation. No. 1 Burbank of the Petroleum Securities, a deep Temblor test in the Middle Dome of Kettleman Hills in Section 30-23-19 is still in the brown shale at 6,650 feet. This well will undoubtedly be watched very closely from now on as the Temblor should be topped within the next 1,000 feet. The interest which attaches to this well lies in the fact that the Middle Dome has perfect closure and its possibilities are considered better than those presented by the North Dome previous to completion of the Milham Exploration Co.'s discovery well. The Standard Oil Co. is also drilling a deep test in the Middle Dome, its project in this area, No. 6-29V in Section 29-23-19, being an offset to No. 1 Burbank of the Petroleum Securities. The Standard's exploration well in the Middle Dome was rotating ahead a few days ago at 5,375 feet.

Potrero

The Wilshire Annex Oil Co., a subsidiary of the Wilshire Oil Co., one of the large independent California refiners, successfully finished a new well in the Potrero Field of Los Angeles Basin during the early part of the week. The Wilshire's new well was brought in flowing 1,340 bbls. per day of clean 44.8 gravity oil and 1,400,000 feet of natural gas from 3,737 feet, the water shutoff having been effected with a string of 10¾-inch landed and cemented at 3,640 feet. The Wilshire's new well was No. 1 Potrero, the first project drilled by this company in the Potrero Field. It is located near the thirteenth hole on the golf course of the Potrero Country Club and, while commercial production has apparently been developed, it remains to be seen whether it will hold up or follow the precedent established by other completions in this field. The Potrero Field has yielded several fairly large completions during its existence but very few wells in this area have paid out because of an insufficient thickness of oil sand to sustain consistent production. This condition was especially conspicuous in the town lot section of the Potrero Field where several zones of limited thickness were encountered during the course of work. The Wilshire's new well was finished in the upper zone and only has a small amount of oil sand below the shoe of the water string. The Wilshire does not expect to engage in additional development work in this field at the present time and will probably take advantage of the 90-day drilling clause before starting another well as this will permit the company to determine whether additional development is warranted on the showing of the initial completion.

Ventura Avenue

The Associated Oil Co. added a new well to its list of producers in the Ventura Avenue Field a few days ago when No. 87 Lloyd was brought in flowing 1,219 bbls. of 26.6 gravity oil and 10,725,000 feet of natural gas per day from 7,088 feet. In addition to completing this new well, the company put No. 2 Ventura Land & Water on a compressor and recompleted it doing 150 bbls. per day from 7,264 feet. This well may require corrective work, however, as the output is cutting approximately 50 per cent water. The Shell is making preparations to complete No. 63 Taylor, a new well at 6,397 feet, and a production test is expected to be made within the next week or 10 days. In the Rincon Field of Ventura County

(Continued on Page 102)

NEW GAS WELLS COMPLETED IN NEW YORK-PENNSYLVANIA FIELD

CORNING, N. Y., June 13.—There are 46 gas-producing wells in the Wayne Dundee Field in Yates and Schuyler Counties and their estimated potential production is 227,000,000 feet per day. This estimate is about 15,000,000 feet per day greater than the estimated potential of the Tioga Field, with its fewer wells. A score of wells on town lots in the village of Wayne are more closely spaced than gas wells should be and it is a question how they will maintain pressure when the production is turned into the pipe lines for market.

The Penn United Gas Co.'s No. 1 G. Burdett, located close to the same company's big gasser on the Meaker farm in Tioga County, Pennsylvania, came in at 5,000,000 feet a day. The Penn United company's No. 1 J. E. Tremaine in the same neighborhood was drilling in sand with nothing showing at last report. The sand in both wells was found in the 3,900-foot horizon. The Lycoming Gas Co.'s No. 1 Decker, located between the gassers on the Meaker and the Farr farms, and which found no gas at the Oriskany sand level, drilled into limestone at 4,681 feet and was drilling ahead. There was no water showing.

In the northern field the Belmont Quadrangle Drilling Co.'s No. 2 Galek, in the Dundee Field, Yates-Schuyler Counties, New York, was a 2,000,000-foot gasser. The Eastern States Natural Gas Co. of Binghamton, N. Y., brought in its first well in the past week. Its No. 1 Brown was good for 2,000,000 feet in its initial test.

The Penn City Oil & Gas Co.'s No. 1 Allen in Rathbone, Steuben Co. hit a pocket of gas at 430 feet and the well started producing gas at the rate of 3,000,000 feet a day. Drilling was continued.

J. T. Cunningham Oil & Gas Co.'s No. 1 Carlson, in the Wayne district, is a 2,500,000-foot producer.

Pipe Line in Operation

The gas pipe lines from the Wayne fields through to the Dundee fields and then to the main lines that connect Dundee to the Horseheads lines are now completed.

All of the wells in the Dundee area are now connected with the main line which belongs to the Belmont Quad-

(Continued on Page 99)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Olympic Realty Corp., No. 1 Barnes, Los Angeles Co.	14- 2-15	6,078	suspended
Hines Pet., No. 1 Ocean Park, Los Angeles Co.	9- 2-15	6,510	br. sh. drilling
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12- 2-15	6,238	suspended
Mesmer City Corp., No. 1 Mesmer, Los Angeles Co.	24- 2-16	5,995	sd. sh. drilling
Dwyer & Becker, No. 1 Compton, Los Angeles Co.	17- 3-13	4,520	suspended
Allison Synd., No. 1 Baldwin, Los Angeles Co.	8- 2-14	5,110	suspended
Cal. Ventura Oil Co., No. 1 Manhattan, Los Angeles Co.	30- 3-14	6,525	suspended
Cal. Ventura Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	3,396	suspended
Cal. Ventura Oil Co., No. 2 Hermosa, Los Angeles Co.	31- 3-14	3,300	suspended
Cal. Oilfields Corp., No. 1 Hermosa, Los Angeles Co.	31- 3-14	2,560	suspended
Carniel Oil Corp., No. 1 Hermosa, Los Angeles Co.	31- 3-14	3,114	suspended
Hermosa Expl. Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	3,050	cleaning out
Kellogg, W. R., No. 1 Hermosa, Los Angeles Co.	6- 4-14	3,078	to test
Westwood Pet., No. 1 Hermosa, Los Angeles Co.	6- 4-14	3,200	testing
Tulsa Oil Co., No. 1 Hermosa, Los Angeles Co.	6- 4-14	3,060	testing
McMahon & McDonald, No. 1 Watts, Los Angeles Co.	12- 3-14	4,665	suspended
Thorpe Pet. Co., No. 1 Hawthorne, Los Angeles Co.	10- 3-14	3,745	resume work
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24- 3-15	3,501	sd. sh. drilling
York & Smullin, No. 1 Watson, Los Angeles Co.	29- 4-13	4,660	sd. sh. drilling
Wilmington Consd., No. 1 Watson, Los Angeles Co.	17- 4-13	1,012	suspended
Pedro Pet. Corp., No. 1 San Pedro, Los Angeles Co.	14- 5-14	....	location
Brubaker, W. O., No. 1 Van Nuys, Los Angeles Co.	11- 2-15	2,700	suspended
Rucker & Crook, No. 2 Puente, Los Angeles Co.	29- 2-10	2,200	suspended
Arden Oil Co., No. 1 Puente, Los Angeles Co.	15- 2-10	3,325	suspended
D. & B. Oil Co., No. 1 Puente, Los Angeles Co.	3- 2-10	4,620	suspended
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30- 2- 9	1,092	cleaning out
Marcel Pet. Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	3,100	suspended
Cudahy Oil Co., No. 1 Bell, Los Angeles Co.	30- 2-12	1,370	suspended
The Texas Company, No. 1 Montebello, Los Angeles Co.	4- 2-12	4,100	hd. sd. drilling
Weist Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	4,842	rebuild rig
Hammer, Fred, No. 1 Alhambra, Los Angeles Co.	24- 1-13	3,412	suspended
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	2,280	suspended
Rucker, L. W., No. 1 Calabasas, Los Angeles Co.	26- 1-17	753	cleaning out
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	5,850	hd. sd. drilling
Ness Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910	suspended
Hall, H. L., No. 1 Newport, Orange Co.	20- 6-10	790	suspended
Gesell, T. F., No. 1 Newport, Orange Co.	29- 6-10	1,470	cleaning out
Standard, No. 1 Newport, Orange Co.	26- 6-10	4,910	hd. sd. drilling
Western Gulf, No. 1 Santa Ana, Orange Co.	12- 3- 8	3,267	suspended
Gieck Oil Co., No. 1 Sunset Beach, Orange Co.	20- 5-11	4,800	gr. sd. drilling
Beck, F. A., No. 1 Corona, Riverside Co.	8- 4- 6	490	sd. sh. drilling
Beck, F. A., No. 1 Beaumont, Riverside Co.	7- 3- 1	520	sd. sh. drilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,392	suspended
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13- 4	2,519	suspended
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16- 3	4,975	hd sd. drilling
South Bay Oil Co., No. 1 Border, San Diego Co.	31-18- 2		location
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 8- 8	5,250	suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-35	6,800	hd. sd. drilling
Barnsdall, No. 1 Gato Ridge, Santa Barbara Co.	9- 8-32	6,510	cleaning out
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-33	2,575	sd. sh. drilling
Smith, W. E., No. 1 Lompoc, Santa Barbara Co.	18- 7-34	100	suspended
Zaca Oil Co., No. 1 Los Olivas, Santa Barbara Co.	20- 7-31	rig	rigging up
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	gas—shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	gas—shut in
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	5,250	hd. sd. drilling
General Pet., No. 133 Goleta, Santa Barbara Co.	21- 4-28	2,030	suspended
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	3,053	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	2,047	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	2,050	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	4,931	suspended
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	2,051	suspended
Boles Oil Co., No. 140 Goleta, Santa Barbara Co.	22- 4-28	1,040	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	1,035	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	2,012	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	1,019	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	1,035	suspended
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29	4,191	suspended
Bellview Oil Co., No. 159 Goleta, Santa Barbara Co.	24- 4-29	2,099	suspended
Cochran, J. H., No. 1 Naples, Santa Barbara Co.	7- 4-29	5,134	cleaning out
Johnson, George Co., No. 1-A Goleta, Santa Barbara Co.	19- 4-27	3,175	Sempo form.
Sovereign Oil Co., No. 1 Guadalupe, Santa Barbara Co.	20-10-35	5,500	fishing
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
C.C.M.O. Co., No. 2-A Rincon, Ventura Co.	23- 3-24	10,030	testing
Continental, No. 1 Rincon, Ventura Co.	23- 3-24	4,500	sd. sh. drilling
Pure Oil Co., No. 1 S. P. Canyon, Ventura Co.	15- 4-21	2,591	suspended
Superior Oil Co., No. 1 Sespe, Ventura Co.	14- 4-21	7,050	sd. sh. drilling
San Pedro Oil Co., No. 2 Sespe, Ventura Co.	13- 4-21	3,410	resume work
Magu Synd., No. 1 Oxnard, Ventura Co.	17- 1-21	4,008	suspended
Mex Cal Oil Co., No. 1 Conejo, Ventura Co.	12- 1-20	188	suspended
Hansen Pet., No. 1 Conejo, Ventura Co.	24- 1-20	230	suspended
Wilshire Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	7,000	cleaning out
Kent & McDonald, No. 1 Temblor Hills, Kern Co.	3-32-22	1,702	set pipe
Calif. Oil Producers, No. 1 McKittrick, Kern Co.	30-30-22	rig	rigging up
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.	20-31-24	5,367	suspended
General Pet., No. 1 Belridge, Kern Co.	20-28-21	4,890	br. sh. drilling
The Texas Company, No. 1 Belridge, Kern Co.	22-27-20	5,045	suspended
Standard, No. 2 Belridge, Kern Co.	31-27-20	5,591	cleaning out
Ohio Oil Co., No. 1 Belridge, Kern Co.	36-27-20	5,980	suspended
Reward Oil Co., No. 1 Belridge, Kern Co.	34-27-20	5,510	3,765 bbls. dly.
Continental, No. 1 Belridge, Kern Co.	36-27-20	5,060	sd. sh. drilling
Wallace, K. C., No. 1 Belridge, Kern Co.	32-29-21	4,222	cleaning out
Rio Cal. Pet., No. 1 Shale, Kern Co.	2-27-18	2,355	suspended
Wicker, Sy, No. 1 Arvin, Kern Co.	12-30-28	1,250	suspended
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	3,419	testing
Shell, No. 2 Weed Patch, Kern Co.	29-30-29	6,410	suspended
Shell, No. 3 Weed Patch, Kern Co.	32-30-29	5,784	testing
Osborn, Colter, No. 1 Weed Patch, Kern Co.	15-30-29	3,825	hd. sd. drilling
Mohawk Oil Co., No. 1 Weed Patch, Kern Co.	32-30-29	6,150	suspended
Mohawk Oil Co., No. 2 Weed Patch, Kern Co.	4-31-29	rig	suspended
Alpine Oil Co., No. 1 Weed Patch, Kern Co.	13-31-29	3,785	suspended
Standard, No. 1 Devils Den, Kern Co.	14-25-18	3,313	testing
Hannah, Tom, No. 1 Devils Den, Kern Co.	25-25-18	2,925	cemented
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	21-26-18	rig	rigging up
Temblor Dev. Co., No. 1 Blackwell Corner, Kern Co.	14-26-19	1,000	sd. sh. drilling
E. J. Miley, No. 1 Blackwell Corner, Kern Co.	17-26-19	rig	suspended
Shell, No. 1 Semitropic, Kern Co.	17-27-23	9,700	plug 4,428 ft.
Moran & DeCamp, No. 1 Mojave, Kern Co.	26-10-14	750	suspended
Kendall Dev. Co., No. 1 Mojave, Kern Co.	27-11- 9	496	sd. sh. drilling
Meridan Oil Co., No. 1 Antelope, Kern Co.	11- 9-15	3,804	suspended
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	6,025	suspended
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	5,100	sd. sh. drilling
Panorama Oil Co., No. 1 Carizzo, San Luis Obispo Co.	7-31-21	4,019	redrilling
Tray El Oil Co., No. 1 Carizzo, San Luis Obispo Co.	7-32-22	2,030	fishing
Cities Service, No. 1 Creston, San Luis Obispo Co.	20-28-15	417	circulating
Paso Robles Synd., No. 1 Paso Robles, San Luis Obispo Co.	34-27-11	4,015	cleaning out
Latin Amer. Pet., No. 1 Shandon, San Luis Obispo Co.	21-27-15	4,615	recemented
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	24-28-12	1,210	sd. sh. drilling
Schockley, C., No. 1 Pismo, San Luis Obispo Co.	13-32-13	3,094	suspended
Jergins, A. T., No. 1 Arroyo Grande, San Luis Obispo Co.	6-32-13	rig	suspended
Pacific Inland, well No. 1, Monterey Co.	19-23-15	1,330	hd. sd. drilling
Irma Investment Co., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,345	gas blowout
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,635	gas well—idle
Valley Expl. Co., No. 1 Dudley Ridge, Kings Co.	20-23-20	3,750	suspended
Kettleman Lakeview, No. 1 Tulare Lake, Kings Co.	11-23-19	1,304	skid rig
Purman, T. H., No. 1 Reef Ridge, Kings Co.	36-23-17	3,600	br. sh. drilling
Seymour, L. W., No. 1 Avenal, Kings Co.	10-23-16	1,148	cleaning out
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	6,600	suspended
Orinda Pet., well No. 1, Contra Costa Co.	33- 1- 3	2,012	cleaning out
Pettingall, C. E., No. 1 Porterville, Tulare Co.	15-22-27	920	abandoned
Knapp, George, No. 1 Porterville, Tulare Co.	20-22-27	700	abandoned
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,092	suspended
Larson, S. E., No. 1 Tulare Lake, Tulare Co.	20-24-23	675	sd. sh. drilling
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	920	hd. sd. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	3- 2-10	4,165	hd. sd. drilling
Orland Oil Synd., No. 1 Orland, Tehama Co.	31-23- 3	2,520	redrilling
Sargent Oil Co., No. 1 Sargent, Santa Clara Co.	1-12- 3	rig	suspended

Completions in East Texas Are Fewer

Drop From 108 Previous Week to 85. Now 607 Drilling Wells, With 106 Locations Made During Past Week

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., June 15.—Withdrawing postings in the East Texas district has apparently not affected the staking of locations as there were 106 made in the district this week. However, completions dropped from 108 last week to 85 this week. There is now a total of 607 drilling wells in the district, 158 being in the Joiner area, 138 in the Lathrop or Longview area and 212 in the Kilgore area, the remainder being in other counties surrounding Gregg and Rusk. There were 38 first reports for the Joiner area this week, 22 locations in the Lathrop area and 29 in the Kilgore area. The Joiner area showed a total of 38 completions for the week, the Lathrop area only 10, and the Kilgore area 30. There are 17 drilling activities in Nacogdoches County and 23 in Upshur County, with two dry holes reported for the former county this week, and three completions in the latter.

There is a total of 781 producing wells in the East Texas district at the present time, distributed as follows: 317 in the Joiner area, 338 in the Kilgore area and 126 in the Lathrop area. Total daily average production for the week was 330,483 bbls., showing a drop of 20,647 bbls. daily over the past week.

Western Joiner Marker

East Texas Refining Co.'s No. 1 Tyiska, on the eastern edge of Smith County, west of the Joiner Pool, and in the R. W. Wilson Survey, is a western marker for this part of the Joiner area as it is now making 36 per cent salt water and basic sediment. Top of the sand has a minus datum of 3,316 feet while the datum elevation is minus 3,320 feet.

The salt water level in the Kilgore Pool is placed at minus 3,320-30 feet, but Southern Crude Oil Purchasing Co.'s No. 1 Smith in the William Killen Survey, a short distance northwest of Overton, and approximately 2½ miles southwest of the Kilgore Pool, has a subsea datum of 3,343 feet and is not making water. The company has it pinched to around 100 bbls. per day, which may be responsible for keeping down salt water in the well.

Walker and Harrison's No. 1 Harrison, southwest of Gladewater, the western limit of the Lathrop Pool, is now flowing a small stream of muddy water, after swabbing the test three times. Top of the sand subsea datum of this test is 3,325 feet and subsea datum on bottom of hole is 3,333 feet, being practically the same as the salt water level in the Kilgore Pool.

Gladewater Extension

Stanolind Oil & Gas Co. and Weaver's No. 1 Everett, in the W. Goodwin Survey, north of Gladewater, is appearing at the present time as having good prospects for extending production in that direction as the test logged the base of the Austin chalk 4 feet higher than the Selby Oil & Gas Co.'s No. 1 Snavely which is southeast of Gladewater. The Everett test got the base of the Austin at 3,521 feet, and cored a sandy shale from 3,527-29 feet.

There are only 18 wells now making water in the East Texas district, 4 being located in the Joiner area, on the western and southwestern side, with 1 on the eastern side, and 14 in the Kilgore area, the majority being on the western side of this field, while two, Humble Oil & Refining Co.'s Nos. 7 and 16 Crim, almost in the heart of the pool, are making water.

Kirby Oil Co.'s No. 1 J. Reddie, in the Thomas Grace Survey, on the southwestern side of the Kilgore Pool, and approximately one-half mile east of production, was recorded as a dry hole this week when it topped the Georgetown lime at 3,284 feet below sea level. It now stands as a limiting factor on this side of the Kilgore area.

The Sinclair Oil & Gas Co. completed its No. 1 March in the Leonard Williams Survey, southeast Rusk County, as a dry hole after topping the Georgetown lime at 3,820 feet, and drilling to a total depth of 3,832 feet. This is the second test to be abandoned in this area within three weeks.

Wells on the Pump

Reports from the field state that there is a total of 53 wells dead or refusing to flow, and that there are 25 others on the pump in the Joiner Pool, giving a good idea of what is in store for this area, and the Kilgore area in the near future. Only one well is on the pump in the Kilgore area at present, but others will probably be put on from time to time, and companies are preparing for such emergencies by rigging up pumping units about as rapidly as the wells are now completed.

A big scare came out of Morris County this week when it was reported that Elliott's No. 1 Brown in the George Dyer Survey cored a saturated sand. However, this proved to be erroneous, the test having cored some dry sand and shale from 3,257-67 feet and went into red beds at 3,267 feet. Morris County is the county adjoining Upshur on the north.

Many reports have been and are continually being circulated that large contracts for oil are being sought or closed in the East Texas district, and the latest of these rumors is that one of the large integrated companies is trying to secure a 4,000,000-bbl. contract, the first 1,000,000 bbls. to bring 18 cents per barrel, the second 1,000,000 bbls. to bring 26 cents and be delivered within six months of the first allotment, with other allotments to come within six months apart.

Distribution of Crude

The daily distribution of oil from the East Texas oil fields for the week ending June 4 was 392,026 bbls. Nine pipe lines serving the East Texas fields distributed a daily average of 240,867 bbls. of the oil, four East Texas refineries used a daily average of 12,920 bbls. and 28 gathering companies using 24 loading racks distributed a daily average of 138,309 bbls.

Daily average amount of crude used by refineries for the week ending June 4:

East Texas refinery at Longview, 4,386 bbls.; Beacon refinery at Henderson, 2,500 bbls.; Overton refinery at Overton, 914 bbls.; East Texas refinery at Friars Switch, 5,120 bbls.

Pipe Line Runs

Daily average runs of the nine pipe lines serving the East Texas fields for the week ending June 4: Pure-Van Pipe Line Co. to Beaumont, 26,386 bbls.; Atlas Pipe Line Co. to Shreveport, 22,029 bbls.; Humble Pipe Line Co. to Shreveport, 44,798 bbls.; Texas Pipe Line Co. to Douglass, 35,049 bbls.; Arkansas Pipe Line Co. to Shreveport, 23,488 bbls.; Magnolia Pipe Line Co. to Center, 28,556 bbls.; Gulf Pipe Line Co. to Port Arthur, 30,349 bbls.; Humble Pipe Line Co. to Todd, 21,967 bbls.; Houston Oil Co. to Amigo, 8,245 bbls.

Tank Car Shipments

Daily average tank car shipments of the 24 oil-gathering systems with loading racks in the East Texas fields:

Butler & Calhoun, 1,029 bbls.; Houston Oil Co., 6,265; Republic Production Co., 739; Sabine Pipe Line Co., 5,549; Simms Oil Co., 5,098; Inland Waterways Pipe Line Co., 1,904; Petroleum Marketing Co. (two racks), 11,297; Tyler Pipe Line Co., 19,256; Sinclair-Texas Pipe Line Co. (two racks), 7,679; Hunter Oil Corp., 7,200; Marine Oil Corp., 5,984; Burton Drilling Co., 6,174; Humble Pipe Line Co., 5,984; Illinois Pipe Line Co. (two racks), 2,608; Central Pipe Line Co., 6,220; Oriental Oil Co., 250; Shell Petroleum Corp., 3,830; Standard Oil & Gas Co., 1,935; Crown Pipe Line Co., 5,707; Pilot Oil Co., 3,571; East Texas Refining Co. (two racks), 6,522; Cranfill & Reynolds, 10,515; Macmillan Petroleum Corp., 6,600; Pilot Oil Co., 10,857.

Loading Racks

There are 30 loading racks with a capacity of 1,324 cars. Eleven of the racks, with a capacity of 374 cars, are on the Texas & Pacific, between Longview and Gladewater. There are 12 racks, with a capacity of 618 cars, on the I.-G.-N., between Longview and Overton. There are seven racks, with a capacity of 207 cars, on the I.-G.-N., between Overton and Henderson.

In addition there are two at Tyler, with a capacity of 92 cars. The Mid-Kansas Oil & Gas Co. has a 15-car rack at Arp, and the Sinclair interests have an 18-car rack between Arp and Troup.

Following are the loading racks on the Texas & Pacific, between Longview and Gladewater: Arkansas Fuel Oil Co., 44-car rack; Macmillan Petroleum Corp., 50-car rack; Shell Petroleum Corp., 30-car rack; Mid-Kansas Oil & Gas Co., 50-car rack; Sun Oil Co., 50-car rack; Cherokee Oil Co., 25-car rack; Texas Pacific Coal & Oil Co., 15-car rack; F. & M. Oil Co., 50-car rack; Lucy Petroleum Co., 25-car rack; Pilot Oil Co., 25-car rack; Simms Oil Co., 30-car rack.

On the I.-G.-N., between Longview and Overton, are the following: J. W. Olvey, 77-car rack; Shell Petroleum Corp., 50-car rack; Marine Oil Corp., 50-car rack; Houston Oil Co., 72-car rack; Sinclair Refining Co., 50-car rack; Humble Oil & Refining Co., 90-car rack; Woodley Refining Co., 30-car rack; Stanolind Oil & Gas Co., 50-car rack; Burton Drilling Co., 25-car rack; Republic Production Co., 50-car rack; British-American Oil Production Co., 50-car rack; Central Pipe Line Co., 24-car rack.

The following are on the I.-G.-N., between Overton and Henderson: Butler & Calhoun, 18-car rack; Gulf Coast Pipe Line Co., 40-car rack; Sinclair-Texas Pipe Line Co., 50-car rack; Crown Pipe Line Co., 30-car rack; Petroleum Marketing Corp., 25-car rack; Panola Pipe Line Co., 18-car rack; Beacon Oil & Refining Co., 26-car rack.

The Taylor Refining Co. has a 50-car rack and the Houston Oil Co. has a 42-car rack at Tyler.

EAST CENTRAL TEXAS WILDCATS

Week Ended June 15

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks:
Riango Oil Co.'s No. 1 J. Lynn, 1,400 ft. from NE line and 7,425 ft. from E line of survey, R. Brown Sur.	Shut down 1,000 ft.
H. B. McConnell et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in S half of 129-ac. tract, M. Main Sur.	Derrick.

ANGELINA COUNTY

R. O. Moore's No. 1 Abney Estate, 50 ft. N of Blk. No. 6, immediately out of city limits of Lufkin	T. D. 1,350 ft.; set 6⅝-in. csg.; bailed dry.
Pollick Oil Co.'s No. 1 Sessions, 1,250 ft. from N and 1,250 ft. from E line of Jesus De La Garza Sur.	Shut down 3,600 ft.

BOWIE COUNTY

Tom Bell's No. 1 Merritt, 1,225 ft. from N and 875 ft. from E line of survey, T. S. McKinney Sur.	Shut down below 2,550 ft.
Devore and Midfield's No. 1 Roy B. Cooper, 250 ft. from N and 250 ft. from E line of Cooper 115-ac. tract, W. M. Ward Sur.	Drlg. 2,520 ft.
Parkering-Jones et al's No. 1 W. W. Whybark, 200 ft. from S and W of SW cor. of J. A. Dyer Sur.	Derrick.
Lee Timberlake et al's No. 2 Julius N. Tidwell, 655 ft. from E and 2,510 ft. from S of survey in L. M. Rice Sur.	Salt water on drill stem test; shut down 3,000 ft.

CAMP COUNTY

W. E. Duke et al's No. 1 L. B. McCaslen, 2 miles NW of Lafayette, Mary Hays Sur.	Rig up.
Illinois Drlg. Co.'s No. 1 E. A. King, 150 ft. E of railroad and 150 ft. N of S line of E. A. King 318-ac. tract, E. A. Peek Sur.	Rig up.

CHEROKEE COUNTY

Ben Banner's No. 1 J. Williams Estate, 150 ft. S and 300 ft. W of SE cor. of the N. Hogg heirs and in the J. L. Hogg heirs Sur.	Shut down 3,630 ft.
D. H. Byrd et al's No. 1 Dixie, 1,385 ft. from N along E line of G. W. Forman Sur. from NW cor. of W. H. Felder 854-ac. tract and 150 ft. at right angles to E line	Drlg. 4,288 ft.
Denman et al's No. 1 Mrs. Renfroe, 330 ft. N of S line and 330 ft. E of W line of farm, Uriah Moore Sur.	Location.
Grey et al's No. 1 McGee, 1,600 ft. from W and 200 ft. S of NE cor. of McKnight Sur.	Shut down 3,477 ft.
Helen-Clare Oil Co.'s No. 1 Mrs. M. P. Perkins, 1,800 ft. from N and 450 ft. from W of survey, Thomas Stafford Sur.	Rig up.
Rowan Nichols and Tidal Oil Co.'s No. 1 W. T. Norman, 330 ft. W of E line and 950 ft. N of S line, J. H. Irby Sur.	Drlg. 4,350 ft.
William A. Stone's No. 1 Blount Decker, 900 ft. E of E line of S. Selman Sur. and 1,200 ft. S of N line of E. M. Decker 406-ac. tract in George Ruddle Sur.	Drlg. 5,100 ft.
Walton Oil Co.'s No. 1 E. Singletary, 250 ft. W and 150 ft. N of NE cor. of M. Lacey Sur. and in Walters Sur. on Singletary 84-ac. tract	T. D. 2,960 ft.

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COMPLETIONS IN EAST CENTRAL TEXAS

Gregg County

Arkansas Fuel Oil Co.'s No. 1 Allison and others, oil sand 3,588-94 feet, initial production 180 bbls. in 15 minutes open flow, total depth 3,594 feet. Cranfill & Reynolds' No. 1 F. L. Rembert Co., oil

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Schleicher County Test to Go Deeper

Howard County Wildcat Looks Good for 100 Bbls. Increased Pipe Line Runs in Wichita Falls Area. Panhandle Quiet

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., June 15.—J. W. Wessner and associates' No. 1 Nicks in Section 77, Block LL, T.C. Survey, Schleicher County, continues to be the most interesting test in the West Texas district. Reports from the field are to the effect that a deal is pending whereby Wessner may sell three-fourths of his interest in the test. The test will be shut down until consummation of the deal is made, or the transaction dropped.

The test is now standing shut down at 4,006 feet with 8¼-inch casing set with 10 feet of perforated joint on the bottom and a wall packer at 3,976 feet. It filled 3,000 feet with fluid when the casing was set; 2,000 feet of fluid was swabbed out of hole, of which 50 per cent was salt water. It then filled up to 1,200 feet with fluid in 18 hours and was again swabbed. It was shut down for one hour and filled 100 feet. Shutting down 40 hours it filled up with 1,200 feet of fluid. It is now standing shut down with 1,200 feet of fluid in the hole.

A dye test proved that the packer failed to shut off a bailer of water coming from around 2,900 feet. The test will no doubt be carried down to the two pay horizons in Phillips Petroleum Co. and Interstate's No. 1 Whitten which was abandoned some few months ago. It is also located near the town of Eldorado. Wessner's test is 4 miles east and 2 miles south of the Whitten test

Wessner and associates have over 3,500 acres in their block around the Nicks test. Practically all acreage in this area is owned by major companies, some holding large blocks which have from eight to nine years to run, the leases having been 10 years, and the majority taken in 1930 when the Whitten test encountered several good oil showings.

Howard County Wildcat

Continental Oil Co.'s No. 1 Brindley in Section 18, Block 33, Township 1s, T.&P. Survey, Howard County, southwest of Big Spring, is another wildcat which is claiming some interest in the Permian Basin, as it is now looking good for around 100 bbls. per day after a 90-quart shot from 3,152-3,200 feet. It is cleaning out. Total depth was 3,590 feet, but upon striking sulphur water at that depth it was plugged back to 3,200 feet. The test filled up 600 feet with oil after the shot.

This well is a mile north of Continental Oil Co.'s No. 1 Harding, the first producer in this area, completed in 1927 at a total depth of 3,230 feet for an initial production of 150 bbls. It later fell off to around 15 bbls. per day pumping and is now temporarily abandoned. Gravity of the oil in these two wells runs around 28-29 degrees.

Loving County

While Loving County has been one of the most active counties in the West Texas district for the past month, with its high gravity sweet oil missing the various price cuts which were levied from time to time, it finally has been included in the depression of prices and the oil cut from 40 cents per barrel to 25 cents per barrel by the Paso-Tex Refining Co. of El Paso. The Paso-Tex Refining Co. has an 8-inch line connected with the pool and is one of the main purchasers of the oil, the company being an associate of the California Co., which has several producers in the pool.

Production in the Permian Basin changes slightly from week to week, but distribution has fallen off considerably, showing the effects of the cheap crude which is being thrown on the market in the East Texas district. Total daily distribution as of May 27 was 289,991 bbls. while the last period, ending June 3, was only 273,149 bbls., a decline of over 16,800 bbls. per day. Runs to West Texas refineries fell off over 10,000 bbls., while pipe line runs fell off almost 9,000 bbls. Tank car shipments showed a small gain.

NORTH TEXAS

Effective June 10, the Continental Oil Co. announced it would increase its pipe line runs in the Wichita Falls area from 700 to 1,000 bbls. daily, while the Waggoner Refining Co. stated it would take around 5,000 bbls. more daily from the district. The Texas Company has announced that effective 7 a.m. July 1 it will take over all of the Humble Pipe Line Co.'s connections in Cooke County, which company takes the majority of some 1,300 bbls. which is produced in the county.

This district has felt the pinch of overproduction probably more than any other producing area in the country, and such announcements are of great importance to the operators in the district. Independent refiners in the district have been purchasing oil in the district for the past year at prices lower than those posted by the major purchasing and pipe line companies in the district, and such new increases in takings by several of the major buyers will probably cause some of the producers to disconnect from the independent refining buyers in order to obtain other connections and a better price for their oil.

The Texas Company is increasing its runs in Archer, Wichita and North Young Counties, taking about 5,000 bbls. per day more than it has been taking up to this time.

The Waggoner Refining Co. will increase its taking from oil produced in the Waggoner pasture in Wilbarger County.

PANHANDLE

Activities in the Panhandle district continue to dwindle, with many of the tests shut down because of the present condition of the industry, low price of crude in the district, and its distance from market. Only two or three locations are reported each week, with about the same number of completions.

Collingsworth Wildcat

The wildcat near Marella, F. J. Downey's No. 1 H. E. Bell, south of the gas wells in Wheeler County, is attracting attention because of a showing of oil at 2,498 feet. This test is in the northwestern part of Collingsworth County, south of the Salt Fork of Red River and about 4 miles north of Quail. When the drill penetrated an oil-bearing formation at 2,498 feet, the fluid rose 600 feet in the hole. Drillers are experiencing trouble with caving, as there is 534 feet of open hole. The company's geologist says oil was found at 2,498 feet in dolomite and the drill has gone only 2 feet into the formation. The oil tests 42 gravity, according to J. F. Downey, driller.

WEST TEXAS PRODUCTION
Week Ending June 13

County—	No. wells	Prod.
Andrews	3	0
Crane	377	17,243
Crockett	51	1,486
Ector	78	6,977
Fisher	11	620
Garza	2	17
Howard-Glasscock	542	30,706
Irion	9	47
Jones	81	1,299
Loving	41	3,782
Mitchell	111	2,040
Pecos	546	73,023
Reagan	255	18,849
Runnels	5	84
Scurry	5	0
Upton	261	5,107
Taylor	3	105
Ward	62	5,445
Winkler	595	44,194
Total production this week		210,024
Total production last week		211,236
Decrease		1,212

COMPLETIONS IN PANHANDLE DISTRICT

Hutchinson County

Huber Petroleum Co.'s No. 1 McIlroy-Johnson, total depth 3,205 feet, plugged back to 2,934 feet, initial production 10,000,000 feet of gas. Stanolind Oil & Gas Co.'s No. 2-A Pitcher, total depth 3,150 feet, plugged back to 3,135 feet, shot 170 quarts 3,050-3,135 feet, top pay 3,060 to 3,100 feet, initial production estimated 250 bbls. daily. Harry Steckol's No. 1

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WILDCAT OPERATIONS IN WEST TEXAS

Week Ended June 15

ANDREWS COUNTY

Deep Rock Oil Co. et al's No. 1 Kuykendall, 2,310 ft. from N and E of SW cor. Sec. 24, School Blk. A-46 — Shut down; total depth 4,648 ft.; plugged back to 4,565 ft.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor. Sec. 45, Blk. G-15, G.C.&S.F. Sur. — Shut down 1,935 ft.

E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur. — Shut down 1,302 ft.

Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur. — Shut down 2,820 ft.

Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles south of Alpine — Shut down 1,750 ft.

COKE COUNTY

Reed, Hitchens et al's No. 1 Duncan, 1,980 ft. from S and 1,650 ft. from E of Sec. 239, Blk. 2, H.&T.C. Sur. (4,500-ft. cable test) — Shut down 30 ft.

CONCHO COUNTY

Beesley et al's No. 1 Waring Estate, 400 ft. from N and E Sec. 163, T.&N.O. Sur. — Shut down 267 ft.

Betts & Dennis' No. 1 H. E. Woods, 710 ft. from E and 150 ft. from S Sec. 3, H.E.&W.T. Sur. — Shut down 30 ft.

Turner et al's No. 1 Borsig, 150 ft. from S of NE cor. G. Emmig Sur. 130, 6 miles W of Paint Rock — Shut down 1,350 ft.

CRANE COUNTY

Cranfill Bros. and Gulf's No. 1 J. B. Tubb, 2,310 ft. from N and 330 ft. from E of Sec. 8, Blk. B-27, Public School Land — Total depth 5,336 ft.; cleaning out after shot; shot with 100 qts. from 4,319-4,279 ft.; hole bridged.

E. H. Sides and others' No. 1 B. P. Nolen, 150 ft. from S and 150 ft. from W of N 160 acres, Sec. 8, Blk. 31, H.&T.C. Sur. — Top salt 760 ft.; elev. 2,355 ft.; drlg. 1,472 ft.

CROCKETT COUNTY

Doleman & Moore's No. 1 Perner, 3,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 3, I.&G.N. Sur. — Spudded and shut down.

CULBERSON COUNTY

Kornrumpf et al's No. 1 Garren, 330 ft. S and W Sec. 15, Blk. 79, Public School Land — Shut down 1,280 ft.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW Sec. 46, Blk. M, E.L.&R.R. Sur. — Spudded 20 ft. and shut down.

(Continued on Page 85)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending June 15

CARSON COUNTY

Deep Lake Oil Co.'s No. 1 Keys, NE cor. SW, Sec. 1, Blk. 4, I.&G.N. Sur. — S.G. 2,230 ft; drlg. 2,265 ft.

El Paso-Amarillo O. & G. Co.'s No. 1 Chapman, 594 ft. S, 1,458 ft. E, Sec. 7, Blk. 3, A.B.&M. Sur. — Rig.

Interstate Prod. Co.'s No. 1 Seiber, C NW, Sec. 10, Blk. 7, H.&G.N. Sur. — Rigging up rotary.

Red River Gas Co.'s No. 1-A Bennett, 660 ft. N, 660 ft. W, NW, Sec. 2, B.&B. Sur. — Drlg. 2,175 ft.

The Texas Co.'s No. 1 Crutchfield, 1,320 ft. S, 1,331 ft. E, Sec. 29, Blk. 4, I.&G.N. Sur. — Moving in material.

CHILDRESS COUNTY

C. L. Sloan et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands — T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur. — Drlg. 2,308 ft.

COTTLE COUNTY

Darby Oil Co. and Merry Bros. & Perrin's No. 1 Richards, 330 ft. NE, Sec. 13, B.S.&F. Sur. — Drlg. 4,562 ft.

GRAY COUNTY

Anderson et al's No. 2 Vollmert, 330 ft. N and W, SW, Sec. 140, Blk. 3, I.&G.N. Sur. — Rig.

Boyles et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur. — Spudded and S.D.

Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur. — S.D. 980 ft.

Cree Hoover & Traham's No. 1 Delmar, 330 ft. S line, 330 ft. W line, NW, Sec. 105, Blk. 3, I.&G.N. Sur. — Drlg. 2,912 ft.

Danciger O. & R. Co.'s No. 1 Barrett, NW cor. S½ NE, Sec. 128, Blk. 3, I.&G.N. Sur. — T.D. 3,365 ft; plugged back 3,235 ft; top pay 3,175 ft; swbd. 60 bbls; to shoot.

Danciger O. & R. Co.'s No. 1-B Barrett, SW cor. N½ NE, Sec. 128, Blk. 3, I.&G.N. Sur. — T.D. 3,280 ft; top pay 3,221 ft; swbng. 7 bbls. per hr.

Danciger O. & R. Co.'s No. 1 Barnett, 231 ft. S, 330 ft. W, E½ of N 56 ac., Sec. 136, Blk. 3, I.&G.N. Sur. — 5,000,000 ft. gas 3,097 ft; S.D. 3,097 ft.

Parton Holt and Shell Pet. Corp.'s No. 1 Morse, 330 ft. S and E, Sec. 6, Blk. 26, H.&G.N. Sur. — Location.

Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W, cor. SE, Sec. 200, Blk. B-2, H.&G.N. Sur. — S.D. 2,770 ft; P.B. 2,430 ft. and shot with 80 qts. 2,409-30 ft; C.O.

(Continued on Page 87)

You'll save money by replacing all obsolete sucker rod tools of doubtful safety. Greatly increased efficiency will quickly compensate for an investment in modern "Oilwell" equipment. *For Speed*... Hook and Elevator snap on or off in a flash; Stuffing Box need not be removed when pulling rods (a mere turn provides free passage for any tool). *For Safety*... Hook and Elevator will handle longest strings; are released only at will of operator, whose hand is protected. Two sizes of Hooks; two sizes of Elevators. Get Folders 431, 433, 401.

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Pipe Line Construction News

Interstate Gas Co. Will Supply Gas to Colorado Springs

DENVER, Colo., June 15.—Colorado Springs, through its city council, has made a new contract with Arthur K. Lee whereby he was authorized to transfer his franchise to supply the city with natural gas to the Colorado Interstate Gas Co. Lee had agreed to pipe gas to that city from the Hugoton Field in southwestern Kansas and was to have supply available by August 1. The Colorado Interstate Gas Co.'s line from Amarillo to Denver runs close to Colorado Springs. Through the new deal, Lee will be able to carry out his promise to the city council within the time limit specified with slight modification of rates.

The city will continue to operate its municipally owned plant and buy Amarillo field gas from the Colorado Interstate Gas Co. at 40 cents per 1,000 feet. Rates to domestic consumers will not exceed those at Pueblo and Denver but Colorado Springs retains the right to make reductions in the future if costs justify them. The pipe line company agrees to give Colorado Springs the benefit of any adjustment in Pueblo and Denver wholesale rates in the future. The Colorado Interstate Gas Co., in its former offer required Colorado Springs to expend $400,000 on a distribution system and guarantee a minimum of gas to be taken, but the new contract does not call for these extensions or a minimum take.

CLAIM SPEED RECORD IN LINE CONSTRUCTION

SAN ANTONIO, Tex., June 15.—What is believed to be a record in speed of pipe line construction was established early this month by N. A. Saigh Co., pipe line builders of San Antonio, on their construction of the 60 miles of 10-inch line for the Texas Pipe Line Co. between San Augustine and Beaumont, Tex. This line was built to reinforce the present pipe line system of The Texas Company and to increase the capacity of the system which is part of the transmission line from the East Texas fields to Port Arthur.

Contracts for the work were let to the Saigh company on May 2, with the understanding that 42 working days would be allowed the contractor to complete the line. Work was begun on May 7, with one crew operating at the rate of 2 miles per day. When 22 miles had been completed in approximately 10 days, The Texas Company requested that the line be completed as quickly as possible, due to certain emergencies which had arisen in the East Texas Field.

Thereupon the Saigh company doubled its crews. Beginning on the morning of May 30 and continuing through the night of June 2, the Saigh company completed, for purposes of pumping oil, 25 miles of 10-inch line in 4 days. This represents 40 per cent, approximately, of the total contract, notwithstanding the swampy ground and other physical obstructions necessary to overcome in building this line.

On the morning of June 3, after the last 25 miles had been welded and built to fit the contour of the ground, the Texas Pipe Line Co. began pumping, gradually increasing the pressure to 750 pounds per square inch for a capacity of 50,000 to 70,000 bbls. of oil per day. The contractors are now completing the ditching, painting and wrapping of this pipe, while under pressure, expecting the work to be finished by June 15.

For this record in pipe line construc-

(Continued on Page 115)

MONTANA'S GAS LINE TO BE READY IN FALL

CASPER, Wyo., June 13.—Winston Brothers, of Minneapolis, Minn., contractors, have taken charge of the construction of the natural gas pipe line for the Montana Power Co. from the Cut Bank district to Butte and Anaconda in Helena, Butte and Cut Bank. The main line will be more than 200 miles long and will cost approximately $12,000,000. It will consist of 20-inch pipe furnished by the A. O. Smith Corp. E. A. Bernard, of the Minneapolis offices of the construction company, will be in complete supervision over the entire system.

Crews will be put to work at three different points and the work will be rushed to completion, the time limit being September 1, 1931. The first unit will extend to Cut Bank from Wolf Creek; the second crosses the Continental Divide over Mullan to Elliston with a lateral from Birdseye to Helena and East Helena; the third runs from Elliston to Butte and Anaconda.

Robert Foster, of Billings, has a ditching contract for 140 miles of the main line between Cut Bank and Butte. He is installing ditchers on the job and will keep them working 24 hours each day with 8-hour shifts.

TO COMPLETE GAS LINE TO CHICAGO BY JULY 15

Recent reports indicate that the Continental Construction Co.'s (Natural Gas Co. of America), 950-mile 24-inch pipe line from the Texas Panhandle to Chicago, Ill., will be able to deliver gas in Chicago by July 15. The construction work on the main gathering lines is completed. The Missouri and Mississippi River crossings have been completed, tested and found to be satisfactory.

Approximately 20 miles of the main trunk line in Iowa in the eastern part of the State, remains to be completed. The construction work on the last 155 miles of the line from the Mississippi River to Chicago, is being rushed. Six main line gangs are employed on this section of the line. It is understood that July 15 has been set for the completion of the main line and indications are the schedule will be maintained.

It is believed that from four to six weeks will be necessary to test the main line and place it in a smooth operating condition. The compressor stations are being completed and tested also. If the schedule is maintained natural gas on a commercial scale will be shipped through the line by September 1.

Permanent operating headquarters will be established in Chicago on July 1 and the remainder of the construction work will be directed from that point.

PRELIMINARY PLANS MADE FOR SHELL LINE

FORT WORTH, Tex., June 15.—The Shell Pipe Line Co. has made preliminary plans for approximately 200 miles of 10-inch line to be constructed from Gregg County to the Houston Ship Channel where it has a 22,000-bbl. daily crude capacity plant, and which it is enlarging at the present time, but men of the Shell Petroleum Corp. advise that nothing definite has been worked out for immediate construction of the line. The company has two gathering lines in East Texas at the present time; a 6-inch in the Lathrop area, and an 8-inch in the Kilgore area, both in Gregg County, and is shipping out oil from a 30-car loading rack located at Willow Springs and a 50-car loading rack at Kilgore.

WHITE EAGLE SURVEYS 70-MILE KANSAS LINE

The White Eagle Oil & Refining Co., a subsidiary of the Standard Oil Co. of New York, is surveying a right of way of a new pipe line of either a 6 or 8-inch pipe, from its refinery at Augusta, in Butler County, Kansas, to the Ritz-Canton area in McPherson County. The new pipe line will be approximately 70 miles long and will cost approximately $500,000.

A tentative survey made when the line was first considered, extends from the Ritz-Canton Field directly south through Harvey County to the Valley Center Pool, in Sedgwick County, a point about 8 miles north of Wichita. The proposed line then may turn east to the company's tank farm about 6 miles north of the company's refinery. A 6-inch pipe line was built from the refinery at Augusta to the tank farm some time ago and it is believed this line will be used to transport the oil from the tank farm to the refinery. The refinery is being enlarged to handle the additional crude supply. At the present time the refinery has a capacity of 15,000 bbls. a day.

PANHANDLE EASTERN GAS AT LOUISIANA, MO.

The Panhandle Eastern Pipe Line Co.'s new 24-inch pipe line from the Texas Panhandle to Indianapolis, a distance of 1,250 miles, has been placed in operation as far as Louisiana, Mo. The arrival of natural gas at the Missouri town, a distance of 657 miles, is believed to be a near record for transporting gas in a 24-inch pipe line.

This line is believed to be the longest natural gas single unit pipe line in the world today. It has been estimated to be costing in the neighborhood of $40,000,000 to construct.

The line starts in the Texas Panhandle and enters Kansas in the southwestern part of the State, near Liberal, and runs northeast passing between Wichita and Newton. It runs across Missouri, crossing the Mississippi River north of St. Louis. Some 75 towns in Kansas, Missouri, Illinois and Indiana are to be served by the line which is expected to have a capacity of 130,000,000 feet of gas per day.

Although the pipe line starts in the Texas Panhandle, its builders expect to draw gas from wells in the Hugoton gas field in the southwestern part of Kansas.

WORKING ON PALESTINE LINE

PALESTINE, Tex., June 13.—A crew of approximately 200 men are engaged in the laying of an 8-inch pipe line in this county from the Boggy Creek Field to a connection about 12 miles west of the Trinity River in Freestone County.

The Oklahoma Construction Co., under contract to lay the 37-mile line for the Humble Pipe Line Co., is making temporary headquarters in Palestine. Work on the line started last Monday and the crews have averaged about 1 mile of line per day.

ENLARGING TANK FARM

The Magnolia Petroleum Co. is enlarging its tank farm at Center Station in Shelby County, Texas, and is erecting an additional five 80,000-bbl. tanks. The Magnolia Pipe Line Co. has a 10-inch line from Gregg County connecting with its Arkansas-Gulf Coast trunk line at Center Station, and is apparently preparing a considerable program for storage facilities.

LONGVIEW-SHREVEPORT LINE IS BUILT QUICKLY

SHREVEPORT, La., June 16.—East Texas crude is being pumped at the rate of 25,000 bbls. daily through the Arkansas Pipe Line Corp.'s 8-inch, 70-mile line from Longview to Shreveport. Work on the new line, which has a daily capacity of 30,000 bbls., began about April 1 and progressed in remarkable fashion. On May 4, oil from East Texas was on its way to the Gas Center Refinery near Shreveport, and the next day the first oil was received.

The line connects with the Louisiana Oil Refining Corp.'s Gas Center and Bossier City refineries and the Ardis tank farm of The Texas Company, from where connection is made with Port Arthur, Tex., by means of joint pipe line tariff with The Texas Company. There, the crude is loaded on Cities Service tankers bound for the eastern seaboard.

In addition to the 70 miles of main line, there are at present 51 miles of gathering lines, ranging from 4 to 8 inches. Approximately 16 miles of the lines is 4-inch, 28 miles of 6-inch and 9 miles of 8-inch. These field gathering lines extend from the various leases and connect with the booster stations. Most of the oil will gravitate to the booster stations. Seven electrical pumps, four of which are located in the Lathrop pump station, kick the oil into the Caster pump station, located on the edge of Longview.

The Caster pump station is equipped with two Prescott plunger type reciprocating pumps. Two 200-horsepower Bruce-McBeth gas engines furnish the power for this station, and two additional electric pumps have been installed since the completion of the Caster station. From that station, the oil is sent through the main line without further boosting until it reaches Scottsville, Tex., where a small booster station has been erected. This station, which is known as the Hope station, is electrically equipped and at some time in the near future will be placed under automatic control. The Hope station was completed in what is believed to be record time. Materials were ordered April 21, received April 23 and the station was completed April 29. The line was constructed by Ford, Bacon & Davis, Inc., engineers of New York City. Only the latest type equipment was used.

Much credit for the splendid work done on the line goes to John H. Mobley, chief engineer of the Arkansas Natural Gas Corp., and his department, and to Dick Gonzales and his assistants of the pipe line department, whose superintendent is W. H. Buckley. G. L. Gano, who has been with the company for several years in charge of the contract division, is in active charge of the Arkansas Pipeline Corp.

TO EXTEND PRYOR LINE

Citizens of Pryor, Okla., have been promised an adequate supply of natural gas by the Mayes County Pipe Line Co. from three pools in Mayes County. The city owns its distribution system but has experienced difficulties in securing an adequate supply owing to exhaustion of shallow fields near that city. The pipe line company plans to lay more lines and to connect with wells producing from deeper sands.

YOAST LINE COMPLETED

Hill & Hill of San Antonio have completed a short pipe line for F. W. Tong from the Yoast Pool in southwestern Bastrop County to loading rack on the M-K-T Railroad. The oil was formerly run by a major concern. Mr. Tong recently bought the production in the field and is running the oil.

NOW . . The New 1½-ton International "Six-Speed Special"

only $725

136-inch wheelbase chassis f.o.b. factory; body and cab, special equipment.

INTERNATIONAL

New "Six-Speed Special" Features

6 forward speeds, 2 reverse. 27 ball and roller bearings. Powerful engine, L-head type; 3⅜ in. bore, 4½ in. stroke; ample power with unusual fuel economy. Cam-and-lever steering gear. Vibration-dampened clutch.

THE fast and powerful "Six-Speed Special" that has done such good work in the oil fields and in pipe-line work goes on to new triumphs. Here is this popular truck with the feature 2-speed axle pioneered by International Harvester—*now with more power and speed, 1½-ton rating, and mechanical refinements wherever it was possible to make them.*

With this new "Six-Speed Special" you are given absolute assurance of low upkeep expense and remarkable operating economy to last over a long period of years.

You need tremendous *pulling power* on the job. Nothing in its class can equal the performance of the "Six-Speed Special". The low range in this six-speed truck is designed for your kind of hauling. And when there is a good straight-away the high range gives you maximum speed.

At the present low price this 1½-ton "Six-Speed Special" is the truck investment of the year. See it at the nearest Company-owned branch or at an International dealer. Drive it yourself and you'll soon see how it performs. And it is protected by the same service that always backs up International Trucks at work.

INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. of America (Incorporated) Chicago, Ill.

An example of the kind of work the "Six-Speed Special" Truck does. Its ability to speed up the handling of pipe through any kind of going has made this truck a favorite.

INTERNATIONAL TRUCKS

Need for Standardizing Knock Tests

Chemical Analyses of Motor Fuels of Little Value in Determining Performance in Use. Engine Only Known Means

By P. F. Swanson
M. W. Kellogg Co.

Today the driver of a motor vehicle wants a gasoline of balanced volatility and good antiknock value that will function smoothly in the engine, producing speed, power, ease of starting and quick acceleration under all conditions. He is no longer scrupulous as to the color of the motor fuel he purchases. In fact, the brighter the hue the greater the appeal.

These recent public demands have greatly stimulated petroleum research and the development of internal combustion engine design bringing about a more intimate co-operation between the automobile manufacturer and the oil refiner.

Refinery operations have been radically changed. The refiner is now cracking, not alone to produce more gasoline, but to improve its quality. He is regulating the operation to produce hydrocarbons of high antiknock value instead of merely producing a heterogeneous mixture. He realizes that the hydrocarbons which make up the straightrun gasoline are fixed by the nature of the crudes from which the gasoline is distilled. The problem of developing superior antiknock qualities is dependent upon methods of cracking to synthesize certain groups of compounds not naturally contained in the crude oil. He is even changing the characteristics of his heavy straightrun gasoline and naphthas by cracking a portion of these.

In addition to improving the physical properties of the gasoline such as its distillation range, with its effect on volatility, the refiner is paying an increasing amount of attention to the chemical composition of his product. Besides studying its combustion characteristics in test engines, he is examining the chemical behavior of each constituent in order to eliminate the undesirables.

Chief among the various tests applied for studying and measuring antiknock are chemical analysis, fractional gravity analysis and engine tests.

Experiments have been directed toward the discovery of a simple yet reliable method of determining the percentage of the four major groups of hydrocarbons in a given oil. Further experiments have been made to determine the effect of varying percentages of these groups of hydrocarbons on the antiknock characteristics of the fuel. These four groups consist of the following: (1) Paraffins. (2) Unsaturates. (3) Naphthenes. (4) Aromatics.

In analyzing a petroleum product for these four groups the reaction between the chemical reagents used and the compounds composing the groups is not quantitative and thus complicates the conclusions drawn from the results. It is generally known that the normal paraffins are bad knockers and become worse with increasing molecular weight.

The iso-paraffins have better antiknock qualities than normal paraffins. It is, however, not possible to differentiate by hydrocarbon analysis between the normal and iso-paraffins for the reason that both types are saturated and have approximately the same boiling point and specific gravity, while the molecular weight is identical.

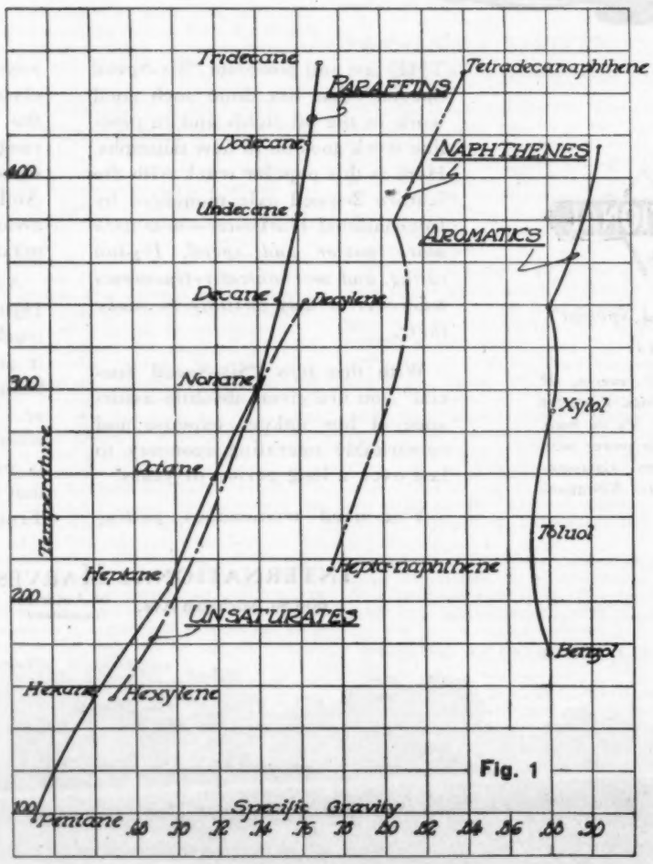
COMPARISON OF RESULTS

In the following article the author summarizes the results of a survey made in which the antiknock values of 18 different gasolines were determined by five independent laboratories. Each laboratory used a different type of testing engine and each tabulated the results in accordance with its regular procedure. The work permits a comparison to be made. While the results are in general agreement, the need for a standardized engine and test procedure is made very evident.

The naphthenes are the major group of the natural compounds of the asphalt base crudes. Their knock values are very similar to those of the iso-paraffins. Their chemical structure is the saturated ring type.

The aromatic group of compounds is normally contained in straightrun gasoline in very small quantities only. This group of compounds has benzene as the basic constituent. Antiknock values of these aromatics are higher than any other group and in general the compounds in this group increase in antiknock value with increase in number of side chains. For example, Toluene is better than benzene.

The unsaturates are the most complex group of compounds in a gasoline and the antiknock value of the constituents varies considerably. Some may be as high as the aromatics and others as low as the paraffins. Also due to their unstable chemical nature, oxidation takes place producing knock inducers. This often accounts for the depreciation in antiknock value of gasoline in storage.



In the study of the knocking tendencies of pure hydrocarbons a relationship was sought based on their relative specific gravities. The above curves show the boiling point-gravity relationship of the four principal hydrocarbon groups.

In general, the unsaturates, when freshly cracked are high in antiknock value but on the other hand present severe problems in treating with reference to gum forming tendencies, color and desulphurization, as well as rapid depreciation of antiknock value in storage.

Therefore, both from a quality and antiknock standpoint it is readily noted that the types and percentage of hydrocarbon compounds are of great importance. The most desirable group is the aromatics due to high antiknock value and relative stability, next the naphthenes and iso-paraffins, then the unsaturates, and least the normal paraffins. There is some question whether the naphthenes and iso-paraffins should be classed ahead of the unsaturates, considered strictly from an antiknock consideration, but this is surely true from a stability and treating standpoint.

The M. W. Kellogg Co., realizing the importance of the subject has carried out a series of investigations to find out if it would be possible to formulate a method of hydrocarbon analysis, the results from which would provide a basis for anticipating engine antiknock ratings.

The necessary quantities of the following pure organic compounds were blended 50-50 with a representative Mid-Continent paraffin base gasoline and were analyzed.

Aromatics

Benzene.
Toluene.
Xylene.
Pseudo Cumene.
Para Cymene.

Naphthene

Cyclo Hexane.

Iso-Paraffin

Iso-Octane.

Unsaturate

Octylene.

The method of analysis used was a slight modification of the usual procedure which involves using one or two strengths of acid followed by nitration of the residue.

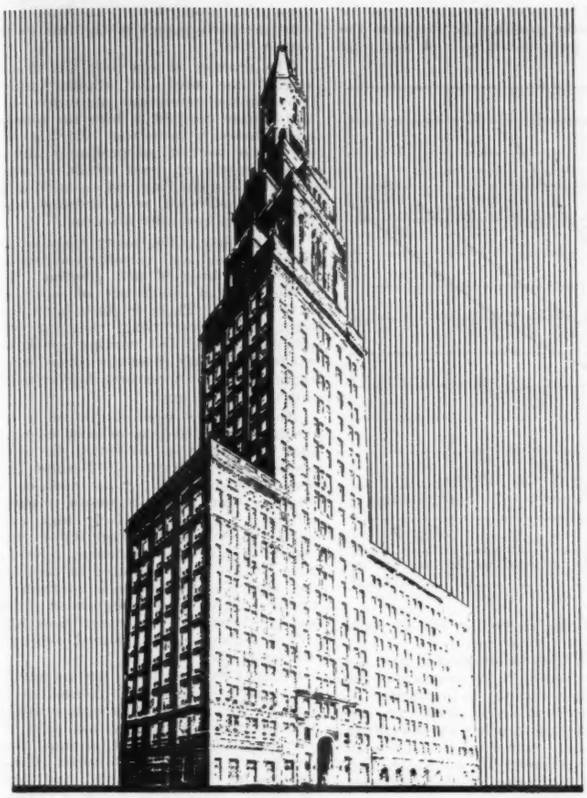
The following table gives the strength of sulphuric acid used for the analysis and the hydrocarbon groups which each was expected to absorb:

80% Acid Highly unsaturates such as Di-olefins.
91% Acid The less unsaturated such as the Mono-Olefins.
98% Acid Aromatics.
Fuming Acid Naphthenes and Iso-Paraffins.

The absorption tube used was a standard Barrett tar acid type which permits treating with five times the amount of acid to the unknown oil. The 80 per cent acid was first placed in the tube, the unknown was then added and the tube im-

TABLE I—CHARACTERISTICS OF GASOLINES

Sample marked—	VG-1	VG-2	VG-3	VG-4	W-1	W-2	W-3	P-1	P-2	P-3	MC-1	MC-2	MC-3	H-1	H-2	H-3	VA-2	VA-4
Gravity	55.1	53.9	53.1	51	55.8	51.9	54.2	59.1	58.4	59.7	58	56.8	55.6	54.2	50.1	52.2	54.4	53.9
A.S.T.M. dist. initial, °F.	135	106	123	117	137	106	121	122	97	119	119	113	132	109	109	114	127	107
10 per cent	190	164	180	168	195	180	182	180	151	167	159	165	186	155	153	172	183	159
20 per cent	214	199	210	201	221	222	220	210	192	203	186	200	212	188	197	208	215	198
30 per cent	231	226	230	227	242	257	247	232	225	231	210	230	235	216	231	237	239	232
40 per cent	247	251	248	251	260	286	270	253	256	256	232	258	257	238	264	262	262	262
50 per cent	263	276	265	272	278	311	292	278	285	282	256	283	280	261	296	284	283	287
60 per cent	278	300	278	291	295	324	314	301	314	308	281	305	301	288	328	316	302	312
70 per cent	293	323	300	312	315	354	336	324	340	334	305	326	322	320	357	345	323	335
80 per cent	315	348	320	331	337	378	360	353	363	362	327	356	347	355	382	377	343	361
90 per cent	344	377	346	354	364	403	387	388	394	393	357	397	378	395	401	402	369	389
Endpoint	382	392	380	377	396	422	415	421	416	417	394	429	423	431	422	425	402	414
Color	+30	Straw	+16	+5	+22	Straw	—7	—25	+25	+25	+25	+25	20	+25	...	+3	...	...



HOW LONG IS THE LIFE LINE OF YOUR BUSINESS?

● The length of the average business life line . . . which is the length of time a business remains actively healthy . . . depends to a great extent upon the longevity enjoyed by the individual most directly interested in that business. This is particularly true of oil, a specialized business. A successful oil business is usually successful because the individual most directly interested has specialized knowledge, training and experience; and because he has exercised these talents with vigor and extreme good judgment.

● Where oil financing is involved, these same qualifications are recognized in The Exchange National Bank of Tulsa, and oil men turn instinctively to this, The Oil Bank of America. With equal confidence, and in increasing numbers, they are appointing The Exchange Trust Company to be executor and trustee of their estates. They recognize the soundness of modern business logic . . . that to delegate an executor's responsiblilies to an individual is to impose a burden. Consequently they assign these functions to an institution having every facility for conserving and perpetuating oil fortunes.

EXCHANGE BANKS OF TULSA

The Exchange National Bank · Exchange Trust Company · Exchange National Company

mersed under water after stoppering. After five minutes' agitation the tube was stood upright in water and occasionally removed and the net oil remaining was recorded until the amount was constant. After final recording of the oil volume, the sludge was drawn off until just a slight trace was left in the tube. Then the next stronger acid was added and the procedure repeated. To the residue, after the fuming acid treatment, was added equal parts of aniline to determine the miscibility point. From work with pure paraffins and naphthenes of approximately the boiling range of normal gasoline, a factor was determined which permitted the calculation of naphthenes and paraffins. Pure paraffins have a miscibility point of 158° F. and the unknown sample each degree lower than this temperature represents 1.84 per cent of naphthenes.

The analyses of the blends showed several interesting facts. First, the unsaturates are not totally soluble in 80 per cent acid as supposed. They are not even totally soluble in 91 per cent acid or 98 per cent acid, and when fuming acid absorption is taken, a great portion of the normally insoluble paraffin base reference fuel is extracted by the acid. Secondly, the aromatics are removed in varying quantities by the corresponding strengths of acid. With the exception of benzene itself, the higher aromatics decrease in solubility with increase in molecular weight or number of side chains. Normal and iso-paraffins and naphthenes were found to be only very slightly soluble in fuming acid, so hydrocarbon analyses after fuming acid can only contain these groups, and are determinable by the aniline point.

From the above tests it was concluded that the method followed gave results which, although of value for comparison, do not really show an exact group separation.

In search of a better method for determining the chemical constituents of a motor fuel, another possibility presented itself. Studies were made of the gravity characteristics of various gasolines as an indication of knock tendencies.

Figure 1 shows the boiling point gravity relationships for the four principal groups of hydrocarbons. Nonane, the average hydrocarbon in a paraffin base gasoline boils at 302° F. and has a specific gravity of .74 or 59.2° A.P.I., while benzene with a boiling point of 176° F. has a specific gravity of .88 or 29.1° A.P.I. A study of Figure 1 shows that the specific gravity of the naphthenes is greater than the paraffins but not as great as the aromatics. It is also to be observed that the unsaturates have practically the same gravity-temperature relation as the paraffins.

Investigations of these relationships in commercial gasolines have been conducted by means of fractional gravity distillations, producing 2½ per cent cuts on the samples and determining the specific gravity of each fraction. The Kansas City Testing Laboratory pioneered in this field, taking fractional gravity distillations of all samples tested in their engines for knock ratings.

Such fractional gravity curves for certain gasolines are plotted on Figure 2. The relative depression of a curve on this chart with respect to the one for pure paraffins or a paraffin base gasoline such as a Pennsylvania stock, is a reliable indication of aromatic content, since these hydrocarbons have relatively higher gravities for similar boiling points.

It is interesting to observe the characteristics of the following three gasolines—the first a Pennsylvania straight-run, and the second and third Venezuela cracked. These appear as Curves 1, 2 and 3 on Figure 2.

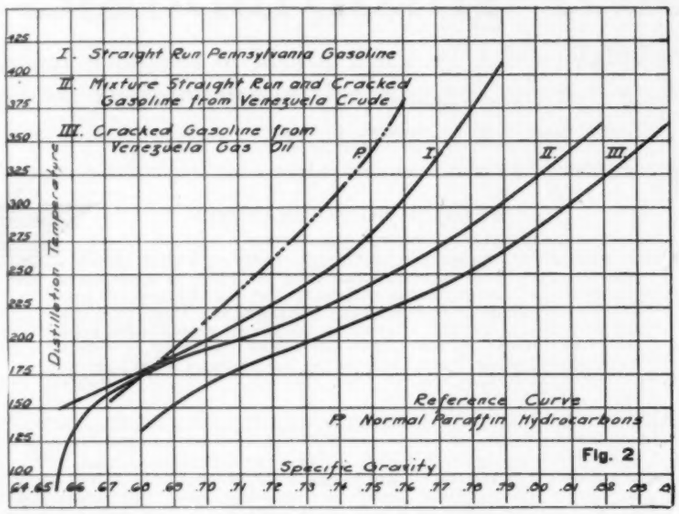


Fig. 2

	Pa. straight-run	Straightrun and cracked from Venezuelan crude	Cracked Venezuelan gasoline
Gravity	59	54	51
50 per cent	278	276	272
Endpoint	420	392	377
Octane No.	40	80	90
HYDROCARBON ANALYSES			
Unsaturates	8	34	35
Naphthenes	9	9	26
Aromatics	6	26	25
Paraffins	77	21	16

It is to be noted that the curves for the Venezuela gasolines lie far from the curve for pure paraffins and distinctly lower than the curve for the Pennsylvania straightrun gasoline.

This table clearly illustrates how the gravity for gasolines of practically the same distillation range is a function of the hydrocarbon analyses, which in turn affects the octane number as determined by engine test. Such a relationship is an interesting indication of antiknock performance of a gasoline but does not seem to provide a precise method for routine testing and comparison of antiknock.

In the absence of chemical tests of requisite quantitative exactness, it is agreed that the most reliable method for determining and comparing anti-

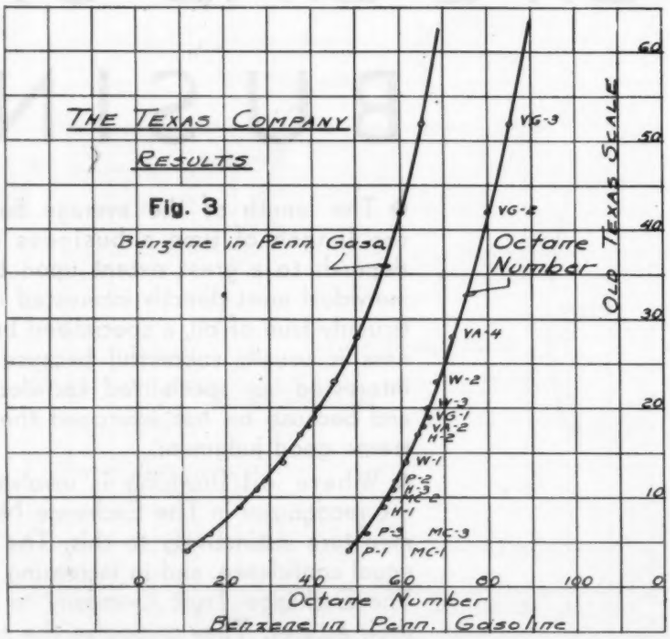


Fig. 3

detonating properties of gasolines is to note the performance of the fuel in the engine itself.

The practice of the past has demonstrated the need for standardization. Grave misunderstandings and general confusion have resulted in both the refining and automotive industries. Each investigator has worked independently and at great expense on tests which, although of value in comparing and controlling his product, could not be interpreted when published or generally discussed.

In the first place, many types of engines of fixed and variable compression have been designed and adopted. The technique and conditions of operation have varied. These engines have been controlled by throttling, changing compression ratios, and varying spark advances. In other cases the conditions of engine operation have been held constant throughout the tests.

However, the greatest confusion has resulted from difference in basic reference fuels adopted and the terms in which results have been given. Results have been given in terms of the addition of blending fluids to the unknown to match reference fuels of relatively high antiknock to which blending fluids were added to match the unknowns. Results have further been indicated in terms of test engine conditions such as manifold vacuum, increases of compression ratios, and spark settings. In many cases individual refiners have adopted arbitrary indexes of their own.

Originally antiknock determinations were made in terms of "benzol equivalent." This method of procedure had its disadvantages for reasons that, first, all reference fuels were not of the same characteristics; second, the benzol blends were not of the same quality; and third, the varying percentages of benzol changed the volatility which in turn altered the results with different climatic conditions.

Great progress in standardization has been made during the past year sponsored chiefly by the co-operative fuels research committee. This committee has also adopted the method of expressing antiknock in terms of blends of iso-octane with normal heptane as originally suggested by Dr. Graham Edgar of the Ethyl Gasoline Corp. These compounds of definite chemical composition and readily reproducible cover the range of commercial gasolines marketed today, and provide a definite scale for knock ratings. The committee has established the "octane number" scale in which gasolines will be rated in terms of per cent iso-octane in blends with normal heptane.

To study various methods of knock testing in order to correlate ratings, to study effects of blending, and to check its own procedure for carrying on antiknock tests, the M. W. Kellogg Co. sponsored an investigation of the subject with the co-operation of five laboratories.

Straightrun and cracked gasolines were secured from Venezuela, Winkler, Mid-Continent, Pennsylvania and Healdton crude sources. These together with 50-50 blends of the straightrun and cracked gasolines from the same crudes were shipped to the following five laboratories:

The Texas Company laboratory at Bayonne, N. J.

Continental Oil Co., Ponca City, Okla.

Sinclair Refining Co., East Chicago, Ind.

Michigan University at Ann Arbor, Mich.

Kansas City Testing Laboratory, Kansas City, Mo.

(Continued on Page 123)

TABLE 2—TYPE OF ENGINE AND TECHNIQUE

Laboratory—	The Texas Company	Michigan University	Sinclair Refining	K.C.T.L.	Continental
Engine manufacture	Horning	N.A.C.A.	Waukesha	Novo	Ethyl Gasoline Corp.
Type engine	Fixed compression	Variable compression	Fixed compression	Variable compression	Series 30
Number of cylinders	1	1	4	1	1
Bore and stroke	3¼"x4½"	5"x7"	3¼"x4½"	5"x6"	2½"x4⅝"
Speed	600 r.p.m.	900 r.p.m.	1,000 r.p.m.	500 r.p.m.	600 r.p.m.
Indication of knock	Listening	Listening	Listening	Listening	Cell or meter
Cooling	Evap. cooling 212°	Water circ. 175°	Water circ. 160°	Water circ. 160°	Evap. cooling 212°
Power absorption	A.C. induction motor	50 H.P. electric dynamometer	Electric dynamometer	36 carbon lights	Synchronous motor
Control	Throttle	Compression	Spark advance	Compression	Knock intensity
Results in terms	Manifold vacuum	Compression ratio	Sum of spark setting for 4° of knock	Comp. ratio benzol equiv.	cc. Ethyl fluid to meet Ethyl Standard
Base fuel	Straightrun Pa. gasoline 58.4 gravity; initial 120 20 per cent 228 50 per cent 274 70 per cent 365 Endpoint 436	Straightrun gasoline	U. S. Motor, Alleghany Co., N. Y. and Pa. Initial 120 25 per cent 221 52 per cent 284 91 per cent 392 Endpoint 437	Straightrun Mid-Continent gasoline 60.4 gravity Initial 94 50 per cent 268 Endpoint 429	

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To give economical, efficient performance, a packing must satisfy two basic requirements. First, it must be sturdily built of quality materials. Secondly, its construction must match the specific job to which it is applied.

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Mechanical Rubber Goods
for Every Industry

STYLE No. 55 RING

Asbestos-Metallic—made with high grade resilient core, covered by plurality of braids of long fibred asbestos yarn. Copper braid covering. Very durable steam packing.

STYLE No. 111 SECTIONAL

Very high grade duck and friction, tightly stitched with linen thread. For low pressures, on rods worn or out of true. Can be used against hot oil.

STYLE No. 65 SPIRAL

Expansion packing—self-adjusting. For outside packed plungers against steam, air, water.

STYLE No. 11 SPIRAL

High quality construction for high pressure, super heat conditions. For steam, air and gas rods, any pressure, all speeds.

STYLE No. 300 RING

Semi-metallic. Made on sliding wedge principle with rubber cushion. For large rods, outside packed plungers, metal wearing surfaces. Makes perfect seal.

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Metric Packings are giving long-time service in this slush pump on a busy producing field.

Gas Tests for Williams County, Ohio

Good Gasser in Monroe County, Indiana. To Drill in New Kentucky Area. Virginia Reports Getting Gas Flow

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, June 15.—Little has been accomplished by the drill in any of the divisions of the Central West Field, outside of Central Ohio, for the week. It is reported that very little gas is being taken from the McCutchenville Field in Wyandot County, probably on account of the sulphur it contains, but sweet gas is sought after by all companies operating in any part of the Central West area. No new completions have been made in the wildcat territory around Grand Rapids and McClure, in Henry County, a western addition to the old Trenton Rock Field, west of Wood County and southwest of Toledo. There are three wells under way in Damascus and Monroe Townships, of Henry County and it is reported a number of tests for gas will be made in the vicinity of Bryan, in Williams County.

It is reported from Bellefontaine, in Logan County, that the Sycamore Oil & Gas Co. has leased 40 acres in Bloomfield Township of that county, near Indian Lake from John L. West for the purpose of drilling for natural gas.

In Hardin County, Cessna Township, the Commonwealth Gas Corp. is drilling on the Carl Searson farm, Section 8. Sheldon and others' No. 1 Frank Kritzler farm, Section 3, same township, has a light showing at 1,370-78 feet, of both oil and gas.

CENTRAL OHIO

Twelve completions were reported from the Central Ohio Field, of which 2 were producers with an initial of 131 bbls., 5 dry holes and 5 gas wells, while in new work starting there were 8 wells drilling and 8 new locations staked, a total of 16, a slight improvement.

In Muskingum Township, the best oil producer found was the Pure Oil Co.'s No. 2 E. J. Hunkins farm, Section 6, Jackson Township, with an initial production of 118 bbls., from 3,159-3,200 feet. William Cline and others are drilling on the Howard H. Doyle farm, Section 3, Clay Township, same county. The Atha Oil Co. has a rig in on the Fred Pollock farm, Section 12, Washington Township, same county.

In Ashland County, Jackson Township, the Ohio Fuel Gas Co. has a gas well in No. 2 on the Charles E. Hines farm, Section 11, also a gas well in No. 1 H. B. Weiler farm, Section 4, same township. Same company has a fair gas well in No. 1-5491 Jennie E. Humphrey farm, Section 31, Hanover Township, and a dry hole at No. 2-5490. Sam and Dave Applegate farm, Section 30, Vermillion Township, same county, where no sand was found. In Montgomery Township, also in Ashland County, the Commonwealth Gas Corp. has a light gas well in No. 1 John A. Stone farm, Section 3, from 2,638-53 feet.

In Loraine County, Carlisle Township, the Elyria Steel & Tube Co. found no sand in a second test on the F. E. Swartz farm, Section 17, and goes as a dry hole. In Columbia Township, Dillon & McFrederick have started No. 3 Cora M. Mills farm, Lot 88, and McMillan and others are drilling No. 1 J. H. Adkins farm, Lot 68, same township. Ohio Fuel Gas Co. is going deeper in No. 1-5489 A. D. Crocker farm, Lot 90, Carlisle Township, in hopes of finding a more prolific gas volume.

In Medina County, Litchfield Township, Ramage & Willis are starting a test on the Pfeiffer & Warner farm, Lot 42.

In Summitt County, Franklin Township, F. A. Brendall and others have a showing for a good gas well on the E. and C. DeWalt farm, Section 25.

In Athens County, Ames Township, the Ohio Fuel Gas Co.'s No. 1-5503 C. W. Henderson farm, fractional Section 4, is at 1,338 feet. Bode and others found a dry hole at 1,075 feet in a second test on the P. R. Devore farm, Section 25, Waterloo Township. Frank O'Mara is starting No. 12 on the Hocking-Hocking Coal Co.'s land, Section 35, York Township.

In Stark County, F. A. Brendall and others have a fair gas well on the Louis J. Wernet farm, Section 25, Jackson Township, in the Clinton lime from 4,248-4,463 feet. Same company is also drilling No. 3 Lake Cable Co.'s land, Section 14, and Smith and others are drilling No. 1 W. Rudy and others farm, same township.

In Guernsey County, Wheeling Township, the Ohio Fuel Gas Co.'s No. 5-1474 Loren C. Stocker farm, Sections 8 and 12, and good for 13 bbls., the oil being found in the lime at a total depth of 3,436 feet. In this well the Niagara lime was struck at a depth of 3,297 feet.

In Belmont County, Somerset Township, A. J. West is drilling No. 3 F. S. and Nellie Rossiter farm, Section 35, and J. W. Kirk and others' test on the J. N. Cater farm, Section 23, same township, was dry in the Berea sand at 1,870 feet, 1,880 feet and 1,893 feet.

In Gallia County, Cheshire Township, the Gallia Development Co. found a hole full of water in a second test on the Sallie Steenberger farm, Section 22, from 715-45 feet.

In Meigs County, Rutland Township, Bing and others have a fair gas well in No. 3 on the Charles F. Jones farm, Section 6, in the Macksburg sand at a total depth of 600 feet. French Dry Cleaning Co.'s test on its own property, Section 24, Salisbury Township, was abandoned as dry at a total depth of 940 feet and in the Salt sand. Talbott and others are drilling No. 1 B. R. Talbott farm, Section 24, same township. Joe Rubin and others are drilling No. 1 H. Tuckerman farm, Section 34, same township, and John Mayer and others are drilling No. 2 Marion C. Hartung farm, Section 35, same township.

INDIANA

The outstanding feature in the Indiana Field is the completion of a gas well rated at 1,521,000 feet, drilled by the Ohio Oil Co. in conjunction with the Petroleum Exploration Co. on the O. A. Hite farm, SE half, Section 17, Benton Township, Monroe County, the gas being found at a total depth of 822 feet and a rock pressure of 225 pounds. Saddle Creek Oil Co.'s test on the Durbin Hessler farm, SE, Section 4, Polk Township, same county, came in a duster in the Trenton lime formation.

Knightstown Natural Gas Co. is due for completion shortly in its No. 5 Charles E. Ramsey farm, near Charlottesville, in Hancock County. J. H. Snyder's second test on the Frank Felt farm, NE SE SE, Section 17, Brandywine Township, same county, is a light gas well.

Vanderburg County, in the southwestern part of Indiana, was quite hard hit with the completion of three dry holes after oil prospects for the finding of a field worth while. Mack Leighty and others found a duster on the Charles Schlag farm, SE SW, Section 32, Center Township. John Drake and others' test on the William Erskine farm, Section 22, same township, was dry at a total depth of 1,075 feet, and V. D. Smith and others found another on the Will Hitch farm, Section 3, Center Township, at a total depth of 987 feet.

James E. Young has a gas well reported with 750,000 feet on the Edwin Robinson farm, SE, Section 30, Harrison Township, Daviess County. Harry Hanson is drilling on the Oliver Smith farm, SE, Section 4, also in Harrison Township.

In Gibson County, Columbia Township, the deepest known well in Indiana, the Texana Oil Co. or the Indiana Southwestern Gas Corp.'s No. 1 L. W. Gudgell farm, Section 25, went to a total depth of 4,009 feet and was dry, having passed through the Trenton lime and then down into the St. Peter sandstone formation, with only a slight indication of oil in the Trenton. James E. Young abandoned his No. 2 on the Sarah Stansell farm, Section 23, Washington Township, Pike County. In the same township and county, C. E. Wommer is drilling a second test on the Frank Hale farm, NE, Section 30, same township. In Patoka Township, Pike County, the Cato Gas & Oil Corp. is drilling No. 3 on the Edward Crow farm, Section 25.

In Jay County, Red Key area, J. D. Wesner's No. 1 W. O. Hoppes farm, was a dry hole, while No. 2 developed into a fair gas well.

Elberfield Gas & Oil Co. is drilling on the Dooney Coleman farm, SE, Section 21, Greer Township, Warrick County.

In the southern part of the State, Conyers & Bugg are drilling No. 5 on the Frank Cassidy farm, Section 30, Clark Township, Perry County.

Parker & Lloyd are drilling on the Lance W. Hall farm, SE, Section 15, Busseron Township, Knox County.

Defiance Oil & Gas Co. abandoned its location on the Richard C. Lake farm, Section 10, Jefferson Township.

Dearborn Development Syndicate is drilling on the Christ Schumacher farm, Section 27, Kelso Township, Dearborn County.

Holland Oil & Gas Co. is drilling on an unknown farm, 2 miles from Holland, in Dubois County.

W-B Oil Co. is drilling on the William McKensen farm, Section 19, Hendricks Township, Shelby County, with a view of going through the Trenton lime to test the St. Peter sandstone formation.

ILLINOIS

Only one completion was reported from the Illinois Field, the Robinson Oil Co.'s No. 3 well, 400 feet from the south line and 275 feet from the west line of the William Schaeffer farm, SW, Section 15, Wabash Township, Wabash County, which produced 5 bbls. initially from the Biehl sand at 1,494 feet.

In Lawrence County, Dennison Township, the Ohio Oil Co. abandoned Nos. 3 and 7 on the E. M. Lewis farm, NW, Section 24, and the Big Four Oil & Gas Co. did the same with its No. 19 on the L. M. Seed farm, SE, Section 21, same township, a producer for many years from the McCloskey sand.

L. C. McDowell and others' No. 11 on the J. F. Higgins No. 3 farm, Section 21, Montgomery Township, Crawford County, is shut down at a depth of 998 feet and will be drilled in later.

Southeast of East St. Louis, in Sugar Loaf Township, St. Clair County, Thomas Whalen abandoned his No. 1 F. and M. Nieman farm, SE, Section 21; No. 1 R. N. Whiteside farm, same section, also Nos. 1 and 2 on the Lena Herbst farm, same quarter section and township.

Ranco Development Co.'s test on the Hoxie McKelvey farm, Section 26, Randolph County, is shut down, as is Monahan and others' No. 1 John Schmall farm, Section 27, Baldwin Township, same county.

In Monroe County, Chambers and others are shut down on the Hy Hutch, Section 24, Monroe Township, and Donaway and others are shut down at No. 1 Addie DeLaney farm, Section 7, Columbia Township, same county.

Thomas Folks and others are shut down at No. 1 Wineburg Brothers farm, Section 18, Lakeside Township, Clinton County. In Madison County, the Minter-Goethe Co. is idle on the Tim Merigan farm, Section 26, Fosterburg Township, and is also idle on the Fred Stutz farm, Section 24, same township.

KENTUCKY

The newest excitement in western Kentucky is centralized midway between Louisville and Cincinnati, about 4 miles southeast of Ghent in the Ohio River Valley, near the Carroll-Gallatin County line, where a second heavy gas well has been brought in by the G. M. C. Oil & Gas Co. on the Robert Furnish farm, estimated as high as from 5,000,000 to 8,000,000 feet with a depth around 330 feet. No. 1 of this company brought in a week or so ago on the F. B. McDonald farm, the discovery well, was reported with 3,000,000 feet, the gas said to be very high with 1,014 B.t.u's. This is entirely new territory for development work and according to reports will be given a most thorough testing, the gas being found in the Trenton lime formation. The company owning the two wells and a lease acreage is a Louisville concern, and means much for Louisville in natural gas which has always been brought to Louisville from the West Virginia fields. It is predicted that a dozen or more strings of tools will move into Carroll, Gallatin and adjoining counties. The new field is northeast of Louisville and southwest of Cincinnati.

Few completions were reported from any section of Kentucky. In the Greenville Field of Muhlenburg County, Ellis and Young's test on the Otto Rothert farm is a 5-bbl. pumper. The H. & K. Producers Co.'s No. 1 on the Dave Shipworth farm, near the hamlet of Weir, came in a dry hole at 825 feet.

In the northern part of the Glasgow Field, in Barren County, M. Liebling and others' No. 1 on the Bush-Samson farm, 2 miles west of Cave City, Bush Valley section, is reported good for 1,000,000 feet of gas.

In Henderson County, Niagara Field, Imperial Oil & Gas Products Co.'s No. 1 Dick Jennings farm, is reported with 300,000 feet of gas at 600 feet, but the same company's No. 1 Aaron Freeman farm, and No. 1 T. J. Berry farm, same pool, are only fair gas producers.

Highland Petroleum Co. is drilling on the Joe D. Crough farm, 2 miles south of Bloomfield, in Nelson County.

VIRGINIA

Report from Bristol, Tenn., is that a gas well of undetermined volume was brought in 9 miles from Bristol, in Scott County, Virginia, at a depth of 2,850 feet. The heavy flow drove the tools several hundred feet toward the surface, breaking the cable and throwing gravel and sand over derrick floor for a depth of 4 or 5 inches. No effort was made to shut in the flow, efforts being directed toward saving the tools and getting them in shape again for a further drilling in the hole. This is the first well drilled in southwest Virginia that had a showing worthwhile, and may lead up to a new oil or gas area.

Dozen Completions in Eastern Fields

But Two Oil Producers, Both in Southeast Ohio. Ten Gas Wells Completed in West Virginia Districts

By Staff Correspondent

PITTSBURGH, Pa., June 15.—Completions in the Eastern Fields comprising Southeast Ohio, Southwest Pennsylvania and West Virginia totaled but 12 producers of either gas or oil for the past week's work. The two oil wells, having an initial production of 21 bbls. within the first 24 hours after being shot, are located in the Southeast Ohio Field, which also reported two dry holes. The West Virginia Field is the location of 10 gassers, and one dry hole. There were no completions reported from the Southwest Pennsylvania Field for the past week.

SOUTHEAST OHIO

Drilling in the shallow sands of Medina County, the E. R. Edson & Son Co. brought in No. 18 on the M. A. and Eva Franks farm, Lot No. 20, Section 16, Chatham Township, after drilling it to 468 feet and in the Cow Run sand where it was shot. Production in this well was 15 bbls. within the first 24 hours after being shot. In New Castle Township, Coshocton County, and on the Frank Garrison farm, the Preston Oil Co. completed its test after drilling 3,185 feet and in the Clinton sand, where the initial production after being shot was at the rate of 6 bbls. for 24 hours.

Wehrle & Co. found the Clinton sand dry on the N. T. Coconis farm in Washington Township, Muskingum County, after drilling the test to 3,968 feet. The Mitchell sand at 107 feet was found dry on the C. C. Palmer farm in Salem Township, Washington County, by E. Pryor. This second test is on Lot No. 114, in Lower Salem.

Drilling in Ohio

James Simpson is drilling a test on his own lot in the village of Racine, Sutton Township, Meigs County. In Tuscarawas County, the Gordon Oil Co. and others have constructed a rig on the Ralph Huffman property in Washington Township. This No. 4 well is on Lot No. 35. Kemrow Co. has a rig constructed on the J. W. Fowler farm, Section 10, Wheeling Township, Guernsey County, for No. 3.

In Athens County, the drilling tools of the Chartiers Oil Co. in its test on the property of the Hocking Valley Producing Co., Section 17, has been sunk below the 1,800-foot level. In the process of drilling a test on the Frank Patton farm in York Township, Hocking Valley Drilling Co. and others have reached 800 feet, and the Union Drilling & Producing Co. has reached 1,200 feet in its second test on the W. H. Powell farm, Section 23. The Associated Oil & Gas Co. has a rig standing on the A. L. Jones farm, Section 4, Starr Township, Hocking County.

Zwingle Brothers are drilling in their test on the Michael Edwards property in Newport Township, Washington County, at the 200-foot level. F. O. Parks and others are drilling a second test on the Charles Bowers farm in Bethel Township, Section 2, Monroe County.

WEST VIRGINIA

There were no oil well completions in the West Virginia Field, and there was only one dry hole. Ten gassers were reported.

Calhoun County has two 1,000,000-foot gassers. On the waters of Yellow Creek and on the L. C. Wolverine property in Sheridan district, C. B. Lewis completed his test in the Injun sand for a 1,000,000-foot gasser, and on the waters of the same stream in the same district, Creed Barker and others brought in their test on the C. L. Richards heirs' farm in the Injun sand as a 1,000,000-foot gasser. The Bowser Oil Co. completed its No. 3 on the W. H. Jackson farm in Center district, at a depth of 1,830 feet as a very fair gasser. This well is also on the waters of Yellow Creek. The test of W. W. Dailey and others on the J. O. Mills property in Sheridan district is awaiting a test after being drilled to 1,861 feet.

William R. Nelson heirs' farm is the location of No. 10 belonging to the Riverhead Gas Co. This well was completed at a depth of 2,355 feet as a very light gasser. The operators are cleaning out after the shot in this well located in Washington district, Boone County. Miller and Lang completed their No. 4 well on the G. P. Alderson farm in Sherman district, as a light gasser, after drilling to a depth of 3,200 feet, and in Washington district, the Cameron Oil & Gas Co. also has a light gasser in its test on the property of E. T. Price and others. This well was brought in at 1,807 feet.

Hope Natural Gas Co. completed the deeper drilling of its No. 7398 on the T. S. Morris farm in Ten Mile district, Harrison County, at 2,933 feet and in the Fourth sand, where it is a light gasser. Same company reported the only dry hole in the West Virginia Field, located on the Cole & Crane Real Estate Co. tract in Triadelphia district, Logan County. This well, No. 7515, was found dry at 2,855 feet and is being plugged.

The Woodyall Gas Co. is cleaning out its No. 3 on the James and Isiahn Adkins farm in Union district, Lincoln County, after shooting it for a very light gasser and after drilling it to a depth of 2,321 feet. The test of the Cambridge Gas Co., on the McCorkle lots in Washington district, is waiting on a test at 676 feet and in salt.

Deeper drilling operations in the test of the Burton Development Co. on the Etta Kerns property in Church district, Wetzel County, were completed at 3,095 feet, at which depth gas was found. The Monickle Gas Co. completed its test on the B. D. Morrison property in McComas district, Cabell County, at 3,578 feet. Same company is cleaning out its test after shooting it as a light gasser.

Drilling in West Virginia

In Cabell County, McComas district, R. H. Adkins and others have reached a depth of 1,400 feet in the process of drilling their test on the Reynolds and Whitney property, and in the same district, R. H. Adkins and others have made a location on the B. L. Perry farm. The test drilling operation of the Madison Gas Co. on the Richard Holton property in this district has been sunk to 200 feet.

In Grant district, Cabell County, the Harshbarger Oil & Gas Co. has a rig standing on the J. A. and Oscar Conner farm for a second test. The test on the W. P. Earl property in Barboursville district, belonging to the West Virginia Gas Corp., has been drilled down to a depth of 1,500 feet, and in the same district, this company has reached 800 feet in its test on the Etta Bowen farm.

The Wayne United Gas Co. is shut down at 1,720 feet in No. 40 on the A. W. Wilson heirs' property in Lincoln district, Wayne County, and the same company has chosen a location for No. 49 on the same property. The Owens-Illinois Glass Co. has also selected a location for a test in this district. It is to be drilled on the T. A. Copley property.

In Logan County, the West Virginia Gas Corp. has selected a location for No. 27 on the Dingus Run Coal Co. tract in Logan district. In Grant district, Marion County, the Owens-Illinois Glass Co. has a rig standing for a test on the Joseph Orth property. In Mannington district, same county, Funk and Glover have reached 3,415 feet in the process of drilling their test deeper on the Rebecca Glover property, and Monroe and Laughlin have their test on the E. J. Dye property at 885 feet.

Kanawha District

In Kanawha district, Fayette County, Grosscup and Schultz are rigged up for No. 5 on the Black Betsey Coal Co., and have made locations for Nos. 6 and 7 on the same tract. Godfrey L. Cabot has drilled his No. 5 on the Beaver Coal Co. tract in Slab Fork district, Raleigh County, to 2,351 feet. This operator has constructed a rig for No. 3 on the Beaver Coal Co. tract in Trap Hill district of the same county.

The Thompson Harris Co. is shut down in its test on the Samuel Hinkle farm in Williamsburg district, Greenbrier County, after drilling to 1,940 feet. The E. C. Moffett Drilling Co. is drilling in its second test on the William Newton heirs' farm in Graham district, Mason County, and in Cooper district of the same county, the Hartford Salt Works has selected a location on the Burt Sayre farm for a test. The Zed Underwood farm, in McClellan district, Doddridge County, is the location of No. 11 og J. H. Pantz, which is drilling at the 2,000-foot level.

A. E. Ellis and others have drilled their test on the Harley Gainer farm to 1,935 feet. The Gainer farm is in Dekalb district, Gilmer County. Frank Golden and others have constructed a rig on the H. E. Engle heirs' property in the same district. Paul Weekley and others are rigged up for a test on the Belinda Fetty farm in Center district.

In Lewis County, Court House district, W. C. Johnson has a rig standing on the John Brown property.

In Mingo County, the United Fuel Gas Co. is drilling in its No. 4,323 on the Central Trust Co. property in Warfield district, at a depth of 3,150 feet, and is drilling No. 4,325 at the 1,050-foot level. A location has been selected for No. 4,324 belonging to this operator on the same tract. Roads are being built to the locations selected for Nos. 4,326, 4,327, 4,328 and 4,329 on the same tract. In Hardee district and on the Cotiga Development Co. property, the United Fuel Gas Co. has selected a location for No. 4,331, and have No. 4,332 drilled to 1,250 feet.

SOUTHWEST PENNSYLVANIA

Not a single completion or dry hole was reported from the Southwest Pennsylvania Field for the past week's work. In Greene County, the Carnegie Natural Gas Co. has sunk its test on the F. G. Jacobs farm in Center Township to a depth of 2,180 feet, and in the same township the test of J. B. Orndoff on the J. E. Scott farm stands at the 2,200-foot level. In Wayne Township, the Manufacturers Light & Heat Co.'s No. 3,443 on the Felix Bell farm has been drilled to 2,045 feet, and the test of D. L. Shafer & Co. on the William Jones property in the same township is shut down at 850 feet.

In Washington County, the test on the John Craig property in Donegal Township, belonging to M. Green & Co., has been drilled to 1,700 feet. Potts Brothers have constructed a rig on the A. Woodruff property in Chartiers Township.

PINCHER CREEK TEST IS ABANDONED AFTER MAKING NEW DEPTH RECORD

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, June 13.—In the Pincher Creek district, southern Alberta foothills, the Alberta Gas & Fuel Co.'s No. 1 Yarrow, LSD 16, Section 34-3-30w4, has discontinued drilling at 4,810 feet, and the outfit is being dismantled. This test, the fourth undertaken by the Henry L. Doherty interests in the Pincher Creek area, spudded in on August 31, 1930, and was carried to the present depth in practically nine months. It is the deepest test yet drilled by the Doherty interests in Alberta, and also established a depth record for the southeastern corner of the foothills. The well was located after exhaustive structure testing, and it logged encouragingly to a depth of approximately 3,800 feet. At that depth an overthrust fault was encountered. Drilling was continued, reaching the 4,810-foot horizon with a 10-inch hole. It had been planned to go 6,000 feet, but at 4,810 feet the formations were geologically higher than those in which the test started, and it was decided to abandon the venture.

The outfit used in the Pincher Creek drilling was brought from Prince Edward Island, where the Doherty interests drilled a 6,000-foot dry hole on Governor's Island, in Charlottetown Harbor. The company's first test, No. 1 Waterton, was located not far from the international boundary on Waterton River in Section 34-2-29w4, and was abandoned after running into drilling difficulties at 4,605 feet. Further north Nos. 2 and 3 were drilled to 3,310 and 4,065 feet. Alberta Gas & Fuel Co. about the same time drilled a test in the plains area near Champion, in conjunction with the Hudson's Bay-Marland Oil Co., this being also unsuccessful. Core drilling was carried on in the Pincher Creek and Twin Butte area, the latter having been previously tested by Imperial Oil, Ltd., without success. No. 1 Yarrow was located in a more northerly section of the Twin Butte area. Imperial Oil's No. 1 in Section 20-3-29w4 had been carried to 4,375 feet and No. 2 in Section 14-4-30w4 was abandoned at 2,780 feet.

Alberta Gas & Fuel Co.'s operations are reported to have involved the drilling of around 17,000 feet of diamond core and 19,500 feet with cable tools, with an aggregate outlay of more than $1,000,000. It is unofficially reported that the company is planning to transfer its activities to the plains area, though the Pincher Creek acreage will likely be retained.

Results at Alberta Pacific Consolidated's No. 2 Weymarn, LSD 5, Section 7-6-1w5, some miles northwest of the Doherty locations, will likely influence future drilling operations by the Alberta Gas & Fuel Co. in that area. Weymarn's No. 2 is reported drilling at 2,950 feet, over 200 feet in the Madison limestone. No important gas shows were met at the Fernie-Madison contact, and so far the lime has not been productive.

South Turner Valley

In the South Turner Valley, East Crest Oil Co., with its new No. 3 on

(Continued on Page 68)

Snapshots of Oil Men Active in Different Areas

1—Lubricating department of the Okmulgee refinery of the Empire Oil & Refining Company. Let to right: W. H. Morris, Frank Borglund, R. G. Owens, S. G. Rhodes, James S. Higdon, H. B. Claiborne, J. W. Taylor, W. H. Miller, J. M. Petross, C. F. Culver, W. N. Phillips, B. E. Viele, F. A. Swan, C. C. Davidson and C. J. Simons. 2—Lee Gower, scout, Sinclair Oil & Gas Company, Tyler, Tex. 3—O. C. Hemperly, engineer; W. M. Prather, chief engineer; and C. B. Anderson, telegraph operator, Gulf Pipe Line Company, Anderson, Mo. 4—W. Mike Murphy, pipe line contractor and second vice president, Southwest Welding Association, Tulsa. 5—Dick Jones, Dean Hiatt and H. S. Hefner, Texas Pacific Coal & Oil Company, Thurber, Tex.

FLEXIBLE THINGS ENDURE

THE FINE-HAIRED SOFT PAINT BRUSH DOES A SMOOTHER JOB AND LASTS LONGER

FLEXIBLE CUPS ON THE GUIBERSON SWAB ESCAPE WEAR AND LIFT ALL THE FLUID

The fine, soft hair of the best paint brushes lays a smooth coat of paint, bends gracefully in the process of slapping and daubing rough places—and goes on doing its job long after poorer brushes have fallen to pieces.

The flexible cups of the Guiberson Swab lift a full load of oil, give way to wrinkles, dents and protrusions in the casing—all the while retaining the fluid without losing a drop—and go on making trip after trip into the hole, showing only the slowest wear. The cup rims maintain a perfect seal with the casing walls, even with the rough places; the heavier the column of oil, the tighter the seal. Guide wires steer the cup rims over the dangerous areas, taking full advantage of their flexibility to avoid damage. Pressure from below collapses the cups, allowing far speedier passage into the well. The Guiberson Swab is doing most of the world's swabbing today.

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GUIBERSON

BETTER BE SAFE THAN SORRY

Personal Paragraphs About Oil Men

Pat Lewis, of the Resistcor Engineering Corporation, Tulsa, is on a business trip to Cleveland and Chicago.

* * *

W. L. MacAltee, of New York City, in the traffic department of The Texas Corporation, was a recent visitor to Casper, Wyo.

* * *

Dorsey Hager, geologist, who has been pioneering in the Pacific Coast northwestern states, visited Denver, Colo., en route to Dodge City, Kans.

* * *

Alvah Kaime and Harold Coyle were recently elected president and vice president respectively of the Cypress Petroleum Corporation of California.

* * *

E. P. Melcher, Wichita, Kans., representative of the Midwest Structural Steel & Iron Works, Denver, Colo., called on oil country trade in Tulsa last week.

* * *

G. A. Kirchberger and O. A. Krause, of Denver, Colo., in the traffic department of the Midwest Refining Company, attended the railroad rate hearing at Casper, Wyo.

* * *

L. H. Deatherage, assistant sales manager of the Bell Oil & Gas Company, Tulsa, is recovering from an accident in which he sustained a fractured leg. He is confined at St. Johns Hospital, Tulsa.

* * *

R. P. Huggins, of the Western Gulf Oil Company, has been elected a member of the board of directors of the California Petroleum Accountants Society, at the annual meeting recently held in Los Angeles.

* * *

L. L. Minor, Jr., general manager of sales for Spang, Chalfant & Company, Inc., of Pittsburgh, Pa., is on an extended trip to Los Angeles, San Francisco, and the California oil fields, returning by way of the southern oil districts.

* * *

G. R. V. Griffith, with the United States Geological Survey, has been recently transferred from Pennsylvania to the Oklahoma territory and is now making his headquarters in the Wright Building, with Walker S. Clute, in the United States Geological Survey offices in Tulsa.

* * *

John D. Clark, formerly an official of the Midwest Refining Company, has returned to Cheyenne, Wyo., having completed his post-graduate work in Johns Hopkins University. Mr. Clark will take the chair of economics at the University of Denver this fall but will continue to make his home at Cheyenne.

* * *

Isaac B. Newton, vice president of the Union Oil Association, chairman of the Federal Reserve of San Francisco and a member of the directorate of the Union Oil Company of California, has been elected president of the Union Oil Associates, succeeding the late E. W. Clark.

* * *

H. T. Mayo, who for seven years has held the post of principal geologist in Persia to the Anglo-Persian Oil Company, has retired from active service with the company. Mr. Mayo joined the Burmah Oil Company in 1912, and first went to Persia early in 1913. He conducted geological surveys in Borneo, New Guinea, Australia and Albania and took a leading part in proving the new Persian Field at Haft Kel.

* * *

John Franklin Dodge, professor of petroleum engineering and chairman of petroleum engineering, University of Southern California, Los Angeles, is making a tour of the Mid-Continent fields and was in Tulsa last week after visiting Seminole, Oklahoma City and Bartlesville. Professor Dodge, with his wife and daughter, will continue east to New York City and visit the gas fields of southern New York and northern Pennsylvania.

R. G. Huffman, of Hasse, Tex., who was severely burned in an oil well fire at Kilgore, is reported to be improving.

* * *

Frank Carr, of the Leland Equipment Company, is in East Texas where he will spend several weeks making a general survey.

* * *

E. L. Rutherford, engineer in the railroad sales department of Crane Company, Chicago, Ill., was a business caller in Tulsa last week.

* * *

A. J. Herrmann, of the Kansas City office of the American Cast Iron Pipe Company, Birmingham, Ala., was a recent Tulsa visitor.

Men of the Industry

Harry Boyd Earhart

Harry Boyd Earhart, who early in the month was elected a director of the Vacuum Oil Company, has been the active head of the White Star Refining Company since its organization in 1910. The company for several years has been one of the widely known independent refining and marketing organizations of the Middle West with headquarters in Detroit, Mich.

Mr. Earhart was born at Worthington, Pa., in 1871, and in his early youth worked in his father's general store at Butler, Pa. When he was 17 years old he went to Duluth, Minn., where he was employed by a shipping firm. Later he became part owner of a small fleet of vessels, operating out of Chicago.

In 1910, he moved to Detroit and founded the White Star Refining Company. Starting in a small way the company's operations have been steadily expanded. To supply its marketing requirements, the company acquired a refinery at Wood River, Ill., and later a larger plant was built near Detroit. The company's marketing operations center in Michigan. Last year the Vacuum Oil Company acquired an interest in the White Star company. The same management continues to operate the company.

Mr. Earhart is widely known in Detroit business circles. In addition to being president of the White Star Refining Company, he is vice president of the H. B. Earhart, Inc.; vice president, White Star Refining Company, Ltd., Windsor, Canada; vice president, Commonwealth Oil Corporation, and a director of National Bank of Commerce, Detroit. He is a director of the American Petroleum Institute and also the Union League Club, Detroit.

William Brookover, with Drane Tank Company, Wichita Falls, Tex., made a business trip to Tulsa last week.

* * *

D. F. McCarthy, of Independence, Kans., traffic manager for the Producers & Refiners Corporation, visited Casper, Wyo., recently.

* * *

Ernest L. Robson, sales representative of the Ludlow-Saylor Wire Company, St. Louis, Mo., was a Tulsa business visitor last week.

* * *

Cecil Nerber, head of the automotive transportation department of the Carter Oil Company, Tulsa, is spending a vacation in the Ozarks.

* * *

D. C. Corley, Gulf Production Company, Wink, Tex., was in Tulsa last week as part of a trip through Oklahoma and East Texas oil fields.

* * *

G. T. Rockenbaugh, Tulsa representative of the Beaumont Iron Works, has returned from a several weeks' business trip through the East Texas fields.

* * *

C. E. Burton, representing the J. P. Devine Manufacturing Company, Mount Vernon, Ill., is on a trip through the Southwest. While in Tulsa he called on oil company buyers.

* * *

Charles H. Kepplinger, graduate of the University of Tulsa, 1931, in engineering, is located in the East Texas fields for the National Tank Company, doing research work this summer.

* * *

E. A. Froyd has been appointed resident manager for the North Central Gas Company at Torrington, Wyo. He has been field engineer for the Midwest Refining Company in the Salt Creek Field for a number of years.

* * *

W. Jennings Young, assistant to Robert W. Hendee, vice president, Oklahoma Natural Gas Corporation, Tulsa, has just returned to his office after three weeks in Morningside Hospital where he underwent an operation.

* * *

Thomas Dunn, manager of Station 8, one of the largest oil pumping stations in Ohio, just south from Cygnet, and owned by the Buckeye Pipe Line Company, where he has been an employe for 37 years, has been retired on a pension. Fellow employes presented a gold watch to him.

* * *

Miss Florence Lundell, librarian in the technical department of the Tulsa Public Library, has left for an extended tour of eastern cities accompanied by her mother. The proposed trip will include stops at Baltimore, Md., New Haven, Conn., and a visit along the New England sea coast. Miss Lundell will not return to Tulsa until the latter part of July.

* * *

George O'Mara, formerly with the Burmah Oil Company, Ltd., Burmah, has recently been made technical advisor for the British Burmah Petroleum Company. This company has recently acquired additional properties in the vicinity of Nyaungoo, Burmah, and has penetrated an oil-bearing formation at a depth of 5,200 feet. The company is planning an active drilling campaign and Mr. O'Mara will have charge of all details.

* * *

E. H. Comstock, professor of mechanical engineering, Minnesota School of Mines, Minneapolis, Minn., is conducting a party of junior petroleum engineering students of the school of mines through the oil-producing states of the Mid-Continent, Gulf Coast and California. The student members of the party are: Wilbur Palm, St. Paul, Minn.; Tully Sanders, Mahnomen, Minn.; Arnold Dahl and Benjamin Penrose, both of Minneapolis, Minn. From Tulsa the party will visit fields in Oklahoma and then go to East Texas and the Gulf Coast and later to California.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

CEMENTING OFF CAVEY HOLE

It is my understanding that the method of cementing off a cavey section of hole without the use of a string of casing is being employed successfully. I would like to know whether this is done by filling the cavey section of the hole solid with a mixture of pure cement and water or if sand or other ingredients are added to the mixture, which is drilled out after it has set. Someone has told me there is another and better method of performing that cementing operation and that is by filling the cement mixture into a cartridge the size of the hole and not exceeding 20 feet in length and including about a quart of nitroglycerin. This is then lowered to the section of the hole which caves and is shot there. It was said the explosion immediately sets the cement effectively against the walls of the cavey formation. I should like to know the most practical method of cementing off a cave, which exists in a stratum of black shale lensed between two large sections of Pennsylvania limestone. The hole is some 300 feet below the cave and the cavey section is about 50 feet thick.—A. J. B.

It is possible to repair this hole with a cement plug and thus save the cost of running a string of casing, but to do this work will probably require the services of a cementing company making a specialty of this kind of work.

It first will be necessary to place a bridge in the hole below the caved portion, this bridge to be made of some material that can be later drilled out without much trouble.

After the bridge has been placed the caved portion of the hole can be filled with cement, preferably by pumping it in through a string of tubing. After the cement has set the hole can be redrilled through it.

The process to which you refer of shooting a charge of cement against the walls of the cavity with nitroglycerin is understood to be a patented one but this department is not in possession of the name of the patentee and does not know who performs this service.

From what you have written it would seem that your safest and best course would be to get in touch with a cementing company and contract the job, for in the long run this will probably prove to be the quickest and cheapest way of having the hole repaired.

COUNTING THE INTEREST

I was interested in reading the expert opinions you published to the effect that putting protective coatings on pipe lengthened the life of the pipe and that therefore it pays to use these coatings. This is not altogether convincing. Is it not true that in many cases, a majority perhaps, if you count what the interest would be on the money you invest in pipe coatings, this interest totals more than you save in the lengthened life of the pipe?—E. G. N.

The following answer to your question is provided by W. H. T. Thornhill, secretary-treasurer of the Underground Pipe Protection Institute:

"We have found many users of pipe who hold the opinion that interest on the coating investment should be compounded throughout the normal life-span of the uncoated pipe, and that it is only after this period that they begin to get any return on their coating investment.

"Let us say, for example, and assuming arbitrary figures for the length of life, for the purpose of illustration only, that bare pipe in a given location will last 15 years; also, that a given protective coating will increase the life of the pipe six years. They calculate compounded interest at 5 per cent on the coating investment, over the initial period of 15 years, and then begin to absorb or charge off this greatly inflated investment figure at a time when uncoated pipe would have normally outlived its usefulness and would have to be replaced in its entirety. Such reasoning is obviously wrong.

"The fallacy of this method of calculation is that it overlooks the fact that the life of bare pipe, when protected, is increased at the initial end of its life-span, and not at a time when it is beyond protection. Logically, the proper method is to carry the investment for protection and that for the pipe as a unit, charging off or absorbing both investments together over the full period of lengthened life of the line itself.

"When viewed in this true light, the investment in coating is not only moderate, but it is the cheapest insurance that can be secured against loss of revenue and increased operating costs. It will be found that the cost of the material and the labor for applying a good pipe coating will run from about 2 per cent in the case of cold applications, to possibly 10 per cent in the case of some wrapped hot applications. These estimates are based on the total cost of a new pipe line, exclusive of compressor or piping stations.

"Based on the estimate of many operators that the average life of unprotected pipe in the Mid-Continent Field can be taken as 10 years, it is seen that a good coating is a very reasonable 'insurance premium.' Even if the estimate of the average life of bare pipe is increased to 20 years, the cost of protection is still reasonable. It will be observed that the coating would only have to increase the life of the pipe a few years to justify its cost. Many coatings can be depended upon to do considerably better than this."

PETROLEUM GEOLOGY IN CUBA

I have read with interest in your publication articles on Cuba. Will you be so good as to tell me where I can get further information as to the geology, areas leased, the nature and procedure of obtaining concessions?—B. C. W. H.

While asphalt, pitch and oil seeps have been known in Cuba for many years, little petroleum has been recovered, according to E. DeGolyer in an article, "The Geology of Cuban Petroleum Deposits," printed in the American Association of Petroleum Geologists, Bulletin Volume 2, 1917. Another article on Cuba was published in the Engineering and Mining Journal, Volume 73, 1902, by T. W. Vaughan, "Bitumen in Cuba."

Vaughan, Hayes and Spencer made a report on a geological reconnaissance of Cuba under the direction of Gen. Leonard Wood, military governor, containing 123 pages, 17 figures and maps and published by the Government in Washington in 1901. A chapter in this report was devoted to asphalt and petroleum and was much the same as the Vaughan report referred to. H. E. Peckman prepared an article on "Bituminous Deposits of Cuba" that was published in the American Journal of Science, Series 4, Volume 12, 1901.

Prof. William H. Emmons in his recently published second edition of "Geology of Petroleum," has a short chapter on Cuba and states that the rocks of Cuba may be divided into five series, as follows: (1) Quaternary and recent deposits, including coral limestone, terrace gravels, soils and sands. (2) Tertiary rocks, igneous in part. (3) Upper Cretaceous marls, shales, sandstones, conglomerates and some limestone. (4) Triassic and Jurassic limestone and associated rocks. (5) The basement complex, consisting of granites, schists, slates and limestone. Of unknown age, most of them probably Paleozoic or older. Includes probably also some Serpentines of Cretaceous age. Serpentine is said to crop out in every province in Cuba.

Professor Emmons further states that asphalt, oil seeps and gas seeps have been reported from every province in Cuba and extend over a distance of 475 miles. They are most common on the north coast, in a zone some 20 miles wide between Esperanza and the eastern boundary of Santa Clara province.

For further information it is suggested that you write the Cuban ambassador to the United States at Washington, Senor Don Orestes Ferrara, as he undoubtedly can give you further references as to what has happened in his country recently in the search for petroleum.

WHY WAS IT CALLED THAT?

BUNTING-POLE

In the cable-tool rig it is common practice to place a timber between the front of the engine foundation and the rear of the derrick foundation to provide a means of opposing the force exerted by the pull of the belt connecting the engine and the bandwheel. The impact which this timber receives when the engine is in operation is in the nature of a bunt, or rather a succession of bunts. The name bunting-pole thus was applied to it. Sometimes it is called a bumping-pole.

OIL FIELD BOILER INSULATION

Is it regarded as worth while to go to the expense of insulating oil field boilers when the gas used as fuel is obtained without cost, or practically without cost, right on the lease? What materials are used for insulation and how are they put on?—E. H. S.

The savings effected by insulation of oil field boilers are not confined to fuel, though it is an important item. Reduced cost of maintenance and of repairs, fewer boiler shutdowns, larger volume of dry steam and longer useful life are advantages gained by insulation. Concerning the materials used for insulation and the methods of applying them, W. H. Meier, chief engineer of the Atlantic Oil Producing Co., said in a paper delivered before a meeting of the Southwestern district, A.P.I. Division of Production:

"Three types of insulation are available for use: asbestos blankets, block magnesia and asbestos, and an insulating cement composed of silica fiber, asbestos and clay.

"The blanket insulation consists of an insulating material sandwiched between two heavy thicknesses of asbestos cloth. The blanket is factory made to exact boiler dimensions and comes to the customer ready for installation. The blanket is supplied in sections that are laced together. Each opening on the boiler is provided for in the fabrication of the blanket and the raw edges of the blanket material are turned back and well secured.

"Magnesia block is a satisfactory and efficient type of insulation. Since magnesia is considered the 'standard of insulation,' it is only a matter of thickness to obtain the desired saving of heat. The blocks, 1½ inches thick, are applied directly on the boiler surface and held in place with No. 14 gauge galvanized annealed wire. Over the blocks is placed a reinforcement of 2-inch hexagonal wire mesh and then the entire surface is covered with cement. Around the manhole, hand holes and fittings, the blocks should be beveled to give a neat appearance and prevent chipping on the edges. On field boilers exposed to the weather, the insulation should be protected by a quarter-inch coat of emulsified asphalt applied in one coat with a trowel.

"Several cements are being used in Mid-Continent fields. The mineral wool-asbestos cement is efficient and economical. It consists of approximately 75 per cent mineral wool, from which it derives its insulating value, and 25 per cent binder, which usually consists of silica and asbestos cement.

"The cement should be applied while the boiler is in use and in coats approximately one-half to three-quarters-inch thick until a total thickness of 2 inches has been obtained. Each inch of insulation should be reinforced with 2-inch poultry netting, secured to the boiler with No. 16 gauge galvanized lacing wire. Care should be taken not to apply the layers of cement too thick and to give each layer sufficient time to dry before applying the next layer. The time required for proper drying depends on the temperature of the boiler; while drying, cracks will appear which can be eliminated from the last coat by troweling.

"The other comparatively efficient cement insulation is obtained by using a long fiber asbestos cement applied the same as above. This cement should be free of all chalk and sand and should be cleaned, mixed and processed by the manufacturer. The quality of this cement can be readily recognized by the length of asbestos fibers and roughness of texture."

Natural Gas Industry Developments

NAVY TO USE AIRSHIP IN TESTING FUEL GAS

The world's largest nonrigid airship, designed for use in a campaign to perfect a fuel gas of the same density as air, recently has been constructed for the Navy and probably will be assembled shortly after the start of the fiscal year 1932, according to information from the Department of the Navy.

While laboratory tests of an unidentified fuel gas are being conducted, it has not been decided yet whether the airship will be assembled as a gasoline-burning or gas-burning craft, it was explained.

Fuel gas, since it is of approximately the same density as air, will make possible the carrying of heavier loads than when gasoline is used, while the cruising range of airships also could be extended. The use of this fuel would require only slight modifications in the design of future airships.

The new nonrigid, designated the "K-1," will cost approximately $150,000, having been constructed by the Goodyear-Zeppelin Co. which built the envelope and the Philadelphia Naval Aircraft Factory, which constructed the car. The envelope will be of sufficient size to contain 320,000 cubic feet of lifting gas, 115,000 feet more than the present largest nonrigid owned by the Navy.

Storage of fuel gas would be accomplished by using special gas cells within the envelope, insulated and protected by a surrounding cell of noninflammable and nonexplosive helium. As the fuel gas was burned, the cells would be kept inflated by the introduction of air to maintain the shape of the ship.

Since it has not been decided whether flight tests of the fuel gas will be conducted in the immediate future, it also is a matter of doubt concerning the type of engines which will be installed in the new ship. Either a group of Wright "J-5" or "J-6," each capable of producing 165 horsepower, will be used for motive power. The second type is better suited to fuel gas because its cooling system will work more effectively to dissipate the increased heat generated when fuel gas is burned.

The new U. S. S. "Akron," nearly completed at the Goodyear-Zeppelin plant, could be altered to use fuel gas instead of gasoline if the service trials of the new product are successful. Problems encountered in repurifying of helium must be solved before this campaign can be completed, but the only modification in the dirigible would be the installation of a new set of gas cells at a cost of about $100,000.

Water-recovery apparatus required with gasoline could be dispensed with in an airship using fuel gas, since this equipment is employed only to condense vapor in exhaust gas from the gasoline motors. Recovery of water is highly necessary in a gasoline-burning airship in order that the releasing of excess helium can be avoided. As the gasoline is consumed, the load carried by the airship decreases and the lifting power of the helium increases so that it is imperative either to compensate for the consumption of fuel or to valve off gas to prevent the ship ascending beyond control.

The new nonrigid measures 220 feet in length, 54 feet in diameter at the maximum point, and 71 feet in height. The gross lift is 20,400 pounds and the useful lift 7,500 pounds. It will have a speed of 52 knots and a range of 2,000 miles.

OKLAHOMAN CHOSEN PRESIDENT OF N.E.L.A.

For the first time since founding of the National Electric Light Association, 54 years ago, an Oklahoma resident was

J. F. Owens

honored by election as president of that organization at its annual convention at Atlantic City, N. J., June 8-12. J. F. Owens, Oklahoma City, president and general manager, Oklahoma Gas & Electric Co., first vice president of the N.E.L.A., succeeded W. A. Jones of New York as the head of the association.

MT. PLEASANT FRANCHISE GRANTED AT ELECTION

MUSKEGON, Mich., June 13.—A new natural gas franchise with the Gas Corp. of Michigan, subsidiary of the National Public Utilities Corp., of Philadelphia, Pa., has been approved by the voters of Mount Pleasant, Mich. Officials of the company, which has held a franchise to manufacture and distribute artificial gas in Mount Pleasant, announced they expect to make the changeover to natural gas by July 15.

An existing small pipe line about 20 miles long connecting Mount Pleasant and Claire will be utilized temporarily to carry gas from wells in Vernon Township and other gas areas north of Mount Pleasant. It is planned later to install a 4 or 6-inch line of 20 miles between the two cities and to supply them both with natural gas from the Mount Pleasant gas areas. Negotiations have been opened with Clare city officials to obtain a franchise there.

TESTS IN WASHINGTON

GREAT FALLS, Mont., June 13.—The Northwestern Natural Gas Co. is reported coring to select a site for its deep test near Kennewick, Wash. It is planned to drill a series of 1,000-foot holes in the neighborhood of Badger Basin, about 9 miles east of Kennewick, to provide more accurate information regarding subsurface geology. The well is to be drilled to a depth of 6,000 feet through the basalt overburden which overlies this region, into the sedimentaries where production is expected. Penetration of the basalt is expected around 1,000 feet.

The prospect holes being drilled are 5 miles apart.

GAS LINE TO ARIZONA AND MEXICO OPERATING

EL PASO, Tex., June 13.—Natural gas tonight is flowing through the new 12-inch high pressure gas mains of the Western Gas Co. to Bisbee and Douglas, Ariz., and Cananea, Sonora, Mexico.

Paul Keyser, president of the Western Gas Co., a subsidiary of the El Paso Natural Gas Co., which supplies gas to El Paso from the Jal, New Mexico, Field, announced completion of all details that extended the line 294 miles westward, giving the two companies a total of 518 miles of pipe line.

Work of the extension, constructed at a cost of $6,000,000, was started February 1 last. The new line will supply natural gas to a large mining and smelting district in southern Arizona and northern Mexico.

In the tests, pressure was brought to 750 pounds per square inch throughout the entire length and held there 24 hours, the first time such a test for a long distance line was known to have been made in the history of natural gas transmission.

While the new line ordinarily will be operated under pressures varying from 300 to 600 pounds, and at these will deliver 33,000,000 feet of gas daily at Douglas, it can be operated at 750 pounds with a delivery of 53,000,000 feet daily at that city.

The project was completed nearly two months prior to the final date called for in the contracts—August 1.

Provision has been made for a supply of gas in the field for more than 20 years. In addition to the acreage already under contract to El Paso Natural Gas Co., Western Gas Co. has acquired under contract and lease approximately 8,000 acres of additional gas land and has tied in to the line four new wells with an estimated open flow in excess of 75,000,000 feet of gas per day.

The effect of the construction of this line to the Douglas-Bisbee-Cananea district will be to stabilize the fuel costs of the copper companies of this district and put them in a stronger position to compete in the production of copper.

Immediately following completion, the line was put in service and gas was turned on in the power houses of the Phelps Dodge Corp., the Calumet & Arizona Mining Co. at Douglas and Bisbee, and the Cananea Consolidated Copper Co. at Cananea, Mexico.

HARDIN COUNTY FRANCHISE

KENTON, Ohio, June 13.—The village of Ridgeway, in southern Hardin County, Ohio, has granted a 25-year franchise and a 5-year natural gas rate contract to the Simms Oil & Gas Co. of Belle Center. Action was taken upon proposal of the company to link Belle Center, in northern Logan County, Rushsylvania, Mount Victory, LaRue and Agosta, the two latter towns in the western part of Marion County, by a 33-mile main which would connect lines of the Ohio Fuel Gas Co., near Marion, the county seat of Marion County. The proposed venture will cost at least $150,000, W. A. Simms, manager of the company, said.

The gas rates are $1.25 for the first 200 feet; 12½ cents per 100 for the next 1,800 feet; 8 cents per 100 feet for the next 1,000 feet; and 7 cents per 100 for all over 3,000 feet.

NEW MONTANA COMPANIES

The Border Gas Co. and the Bowdoin Gas Co., both capitalized at $50,000, were recently organized by C. I. Tenney and W. J. Allison of Minneapolis, and Grover Wait of Malta, Mont.

NATURAL GAS SUPPLY FOR EAST COAST SOON

NEW YORK, June 13.—The Continental Construction Co.'s natural gas pipe line from the Texas Panhandle to central Illinois will be completed by August 1, and the natural gas line from Kentucky and West Virginia Fields to Pennsylvania through Virginia, Maryland and the District of Columbia by October 1, it was said after the meeting of directors of the Columbia Gas & Electric Corp., at which the regular quarterly dividend of 50 cents a share was declared.

It was learned that the Columbia system had obtained numerous franchises along or near the route to be followed by the main pipe line through Virginia. Negotiations with leading Pennsylvania and New Jersey companies are progressing, and in a few months natural gas is expected to reach the Atlantic seaboard in these and other eastern states.

The Columbia system owns a substantial natural gas acreage in northwestern Pennsylvania and southwestern New York, where two new natural gas fields discovered in the past 18 months are being explored by gas experts of several companies, including the Standard Oil Co. of New Jersey and the Cities Service Co.

It is not considered likely from present indications that a supply sufficient to serve New York City or other large metropolitan or industrial areas is available in the two areas. The supply in New York has been made available to several cities in western New York, however, and plans to increase distribution in the region are now under consideration.

OHIO-MEXICO GASSER INCREASES ITS FLOW

Referring to the recent discovery by the Ohio-Mexico Oil Co., of a 10,000,000-foot gas well about 15 miles south of the international line between Mexico and Texas, President O. D. Donnell, of the Ohio company, who is also president of the Ohio-Mexico company, in his annual report to the stockholders of the Mexico subsidiary, states that the well was drilled 186 feet deeper and that the gas flow was more than doubled.

He states that the well was started January 7, 1931, on the Rancho de la Presa, district of Mier in northern Tamaulipas.

"Much encouragement was offered by the early drilling, as several showings of gas in shale formations were discovered at less than 1,000 feet. A string of 12½-inch casing was set and cemented at 1,280 feet. Upon resumption of drilling on April 29, 1931, a flow of 7,000,000 feet per day, with 620 pounds rock pressure, was encountered. The gas is rich in content, with a strong odor of oil. Since the latter date the well has been drilled 186 feet deeper and the gas flow more than doubled in volume. The well is in the center of a block of 29,000 acres under lease by the company, and as the gas line which serves the city of Monterrey is within 6 miles of the property, it appears that a favorable market outlet will be afforded."

The report states that the company is drilling another test near the town of Aldamas, state of Nuevo Leon, which on May 11 had reached a depth of 2,700 feet with the objective horizon expected around 4,000 feet. Geologists are at present doing work for the company in the states of Coahuila, Nuevo Leon and Tamaulipas. The well drilled on the property of Gonzales Trevino, Rancho de San Diego, state of Coahuila, has been abandoned at 5,920 feet.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

QUANTITATIVE DETERMINATION OF ACID IN GASOLINE

Would you please describe a satisfactory quantitative method for the determination of acidity in gasoline?—S. H.

The residue in the distillation flask after making the distillation test should be transferred, by repeated rinsing with distilled water, to a beaker or casserole. If more than a few specks of carbon are present it will be necessary to wash the flask residue into the beaker through filter paper. This solution is titrated, in the presence of methyl orange indicator, against a standardized solution of sodium hydroxide, N/10 being a convenient strength.

If the gasoline contains acid, as shown by the color upon the addition of one or two drops of the indicator, the titration may be calculated to total acid, expressed as sulphuric.

There is but little demand for the quantitative expression of acidity because a positive indication of acid rarely is found in gasoline as delivered to the consumer. The testing for acidity is a control test, qualitative only, used by the refiner when inspecting the product after the treating operation. A part of refinery gasoline may be treated with sulphuric acid, so if this operation is conducted in a careless manner, and without adequate inspection, it is possible for small quantities of acid to contaminate the product. Some gasoline, frequently natural gasoline is treated with chlorine so when this product is improperly refined hydrochloric acid may be present in the gasoline. In such cases the free acid may be present in large enough quantities to be detected in the water extract, obtained by shaking a mixture of distilled water and the gasoline, upon the addition of methyl orange indicator solution.

The qualitative methods described in Technical Paper 323B, United States Bureau of Mines, Page 89, are:

"Method 510.1—Reaction test. Place 50 cc. of the sample and 15 cc. of distilled water in a 150-cc. flask. Warm to 150° F. and shake thoroughly. Allow the mixture to cool and transfer 5 cc. of the aqueous to each of two test tubes by means of a pipette. Add one drop of a 1 per cent solution of methyl orange (for acid) to the contents of one tube and one drop of a 1 per cent solution of phenolphthalein (for alkali) to the other. No red or pink should result in either case.

"Method 510.2—Acidity in gasoline. Note—This test is to be made immediately after distillation test 100.13. Collect in a test tube the cooled residue from the distillation flask, add three volumes of distilled water and shake the tube thoroughly. Allow the mixture to separate and remove the aqueous layer to a clean test tube by means of a pipette. Add one drop of a 1 per cent solution of methyl orange. No pink or red color shall be formed."

ANTIKNOCK DOPES

We have a sample of gasoline improver, 1 cent's worth of which, it is claimed, will when added to a gallon of gasoline make it equal to the best antiknock gasoline now on the market. This smells like moth balls. Do you know of any material having this power?—N. C. B., C.C. and others.

Within the last few weeks there has been an increase in the number of questions relating to substances claimed to be powerful enough to materially increase the knock rating of the subpremium grade gasolines. The better grades of antiknock gasolines now marketed have a knock rating between 70 and 80 octane number. This high rating is obtained from selected stocks, special methods of fractionation and cracking, and by the addition of expensive chemicals of known merit. With the consequent increased cost it is necessary that a premium, usually 3 cents per gallon, must be charged over the retail market price for ordinary gasoline. It would be very interesting to the entire industry if an equivalent result could be obtained with material selling at the retail price of 1 cent for a sufficient quantity to treat 1 gallon of gasoline so as to bring it up in knock rating to between 70 and 80 octane number.

A recent article by Dr. H. C. Dickinson of the United States Bureau of Standards in Ind. Eng. Chem., 23, 517, 1931, gives the results of an investigation of gasoline dopes. This term is defined: "Any substance which is used or proposed for mixture in amounts less than, say, 1 per cent with gasoline for the purpose of improving its properties." This investigation covered the examination of 150 substances claimed to be tonics, improvers, power developers, antiknock agents and whatnots, but all were found to be ineffective. The tests did not include tetraethyl lead or other of the recognized knock suppressors since these are not available for distribution in small quantities as "dopes." "Not a single instance of any important improvement has been observed in any feature of engine performance."

The final conclusion states: "Gasoline dopes which are sold in small quantities can be accepted as of value only on conclusive evidence that they are effective. They cannot be expected to improve starting, decrease crankcase dilution, or prevent vapor lock. So far as information is at hand, no materials which in small quantities reduce knock are sold separately for mixture with gasoline. Maximum power cannot be affected by small additions of any known substances, except as they affect fuel knock. Carbon formation and fuel economy are so dependent on adjustments and operating conditions that proof of the value of dopes is more difficult."

AMERICAN STANDARDS FOR PETROLEUM PRODUCTS

Will you please tell me how the American Society for Testing Materials functions; who is the directing head; do they have a laboratory of their own or is their work done in connection with some school? What relation does the society bear to the American Standards Association? Does the United States Bureau of Standards accept standard methods of test submitted by the A.S.T.M. and accept standards which have been approved by the American Standards Association, especially where the above mentioned societies took the initiative in developing standards or tests?—J. A. S.

The American Society for Testing Materials is a national technical society of over 4,400 members organized in 1902 for the purpose of promoting the knowledge of engineering materials and the standardization of specifications and methods of testing. The membership includes three groups—producers, consumers and a general group of experts affiliated with the United States Government and technical institutions.

There are 50 standing committees organized for the purpose of studying materials, developing testing methods, and agreeing upon specifications. Each committee, functioning under prescribed rules, conducts research in the field of its particular specialty. The reports of these investigations are made annually to the society, which has the final responsibility for any standard adopted by a committee. The A.S.T.M. does not maintain a laboratory but practically all laboratories co-operate and make use of their special facilities for the work of the society. This work is of tremendous economic import to all industries and from the very generous co-operation given by leading industries, and the fact that companies are so ready to have their technical men serve on A.S.T.M. committees, it is clear that the society is one whose value is widely recognized.

The committee directly concerned with the petroleum industry is known as D-2 on petroleum products and lubricants. This is a large committee of 111 members, meeting several times each year. Its investigations are made by over 40 subcommittees, each of which studies some special subject; such as color, flashpoint, viscosity, distillation, burning test and calorific value. Only those standards for materials that are satisfactory to both producing and consuming interests can ever come into general commercial use. Accordingly, the society has adopted the principle that the producer and consumer of materials should be brought together on an equal footing in the committees which are to develop commercial standards. While these committees are composed of producers, consumers and a general interest group, there is the added provision that the producer group may not predominate. Of the 111 members of Committee D-2, there are 62 listed as producers, 36 as consumers, and 13 in the general group. The voting members being—42 producers, 34 consumers, and 13 general interests.

The American Standards Association has grown from a committee organized by five of the engineering societies for the purpose of providing a clearing house through which technical societies, trade associations, or governmental departments could develop necessary standards. The A.S.T.M., one of the founders, has furnished 57 standards of the A.S.A.

A number of the A.S.T.M. specifications and methods, and corresponding ones adopted by the United States Government and issued as formal Federal specifications are in substantial agreement. The Bureau of Standards is represented on most of the standing committees of the society. These men have often served as officers of the A.S.T.M., on committees, and subcommittees.

The president of the American Society for Testing Materials is K. G. Mackenzie, The Texas Company, 135 East Forty-second Street, New York City. The secretary-treasurer is C. L. Warwick, 1315 Spruce Street, Philadelphia, Pa. The statement above is based on information obtained from Mr. Warwick.

CORROSION OF FUEL OIL TANKS

We have recently received word concerning several fuel oil tank installations on which internal corrosion has developed. A number of small holes appeared in the bottom of the tank. Will you kindly give us your opinion as to what this might be due to as well as any other experience you may have had along these lines? We would also appreciate hearing from you concerning the effect of electrolytic action, water or acids in causing corrosion?—W. C. S.

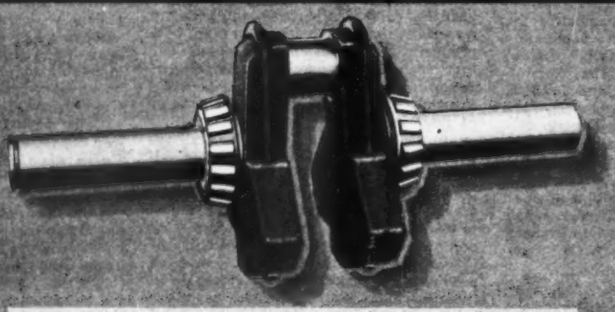
Sulphur, water, acids and electrolytic action are the common causes for the corrosion of tanks. Sometimes the quality of the metal is largely responsible. Electrolytic action may be set up when the metal is in contact with the ground or when there are combinations of unlike metals, also in the presence of salt solutions. Frequently electrolytic action is set up in a tank because of the presence of small quantities of water containing salt in solution.

Sulphuric acid or hydrochloric acid may be a source of corrosion as they are often present in fuel oil, especially in the presence of water. The various forms of sulphur are responsible for most of the corrosion, especially the combination of hydrogen sulphide and either hydrochloric acid or sulphuric acid. Hydrochloric acid is one of the products formed when calcium and magnesium chlorides are heated in the presence of water. These chlorides are often found in the water accompanying crude oil and find their way into the distillates and residues. These acids form hydrogen sulphide when it combines with sulphur which may be present in the oil or in the metal.

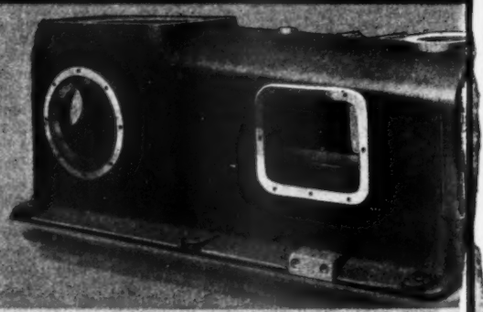
The larger quantities of sulphur found in the lubricating oil and in the fuel oil residue represent the compounds, such as sulphates, not easily broken down by the heat of the stills. If the temperature is high this sulphur may be liberated as one of several compounds. The corrosive action of sulphur may proceed in various ways. A direct combination of iron and sulphur forms iron sulphide. Under some conditions this combination is followed by contact with a dilute acid, and then corrosion results in a very short time. The sulphur may combine with other elements to form compounds which have corrosive properties. The sulphur oxides and the sulphur acids belong to this class. Under certain conditions the sulphur is set free and the small particles combine directly with the iron, corrosion following as indicated.

Having no details as to the sulphur content of the fuel oil, also as to the possible presence of water, it is impossible to give an opinion as to what is causing this corrosion other than the above suggestions. As the tanks are presumed to be widely separated it does not appear that electrolysis is the source of the trouble. It is suggested that an examination be made of the fuel to determine if there is an excessive quantity of sulphur present, and also see if the tanks are free from water.

Built to P



Timken Main Roller Bearings oversize; designed for heavy railway service. Permit stronger frame construction; minimize friction; rarely need adjustment; are safer if lubrication is interrupted.



Main Frame—ruggedly and rigidly constructed of s and properly proportioned to give the same strength a below the line of piston thrust.

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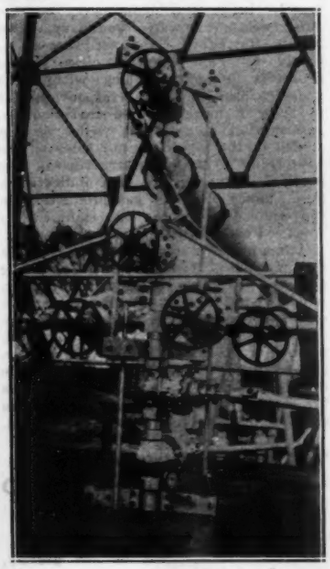
ELIMINATING HAZARDS OF SAND PRODUCERS

(Continued from Page 17)

cals and water in the case of fire. All such requirements have been fully observed at No. 1 Refinery Site well and tank battery. In addition a rather elaborate set of fittings have been installed at some distance from either the well or tank battery to which the city fire department can attach their equipment for chemicals or water. A pipe with its open end over the cellar of the well has been laid between the connections referred to above and through this pipe chemicals may be pumped if necessary.

A picture of the type of connections installed at well head of another producer in this Wilcox sand zone is shown herewith. It will be noted from this picture that 3-inch connections have been made by welding short nipples into the flow string above the lower master gate. The city ordinance states that no connections shall be made between any of the three master gates.



Christmas tree on Empire Oil & Refining Co.'s No. 1 Refinery Site well, Oklahoma City Pool.

This type of connection at the well head is not safe or satisfactory because the entire well pressure is against it.

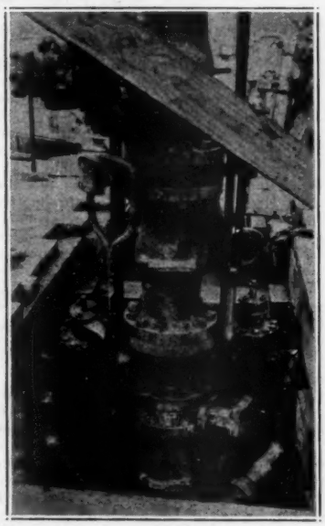
Should either of the 3-inch valves leak (they are normally supposed to be closed and tight against well head pressure), this well pressure will then be transmitted through the questionable connections to the 4-inch line. This increases the hazard of this type hook-up.

If either of these 3-inch valves or the fittings should fail the lower master gate must control the well and if for any reason it cannot be closed the well would be out of control and difficult to again shut in. As the nipples are welded to the flow string they cannot be removed without closing the lower master gate and taking off the fittings above as some type of welding apparatus would have to be used to break the welded connections.

If it is argued that such connections are placed on the well for the purpose of killing it with mud or water if necessary, it seems that such an argument is weak because if it was really necessary to put on such fittings they should be placed above the third master gate and a fourth gate placed on the flow line above. No fittings which would permit opening the well should exist between or below the three master gates.

If the 3-inch valves are left cracked the well will produce oil even though the upper two master gates on the flow string are closed and to all normal appearances the well is shut down.

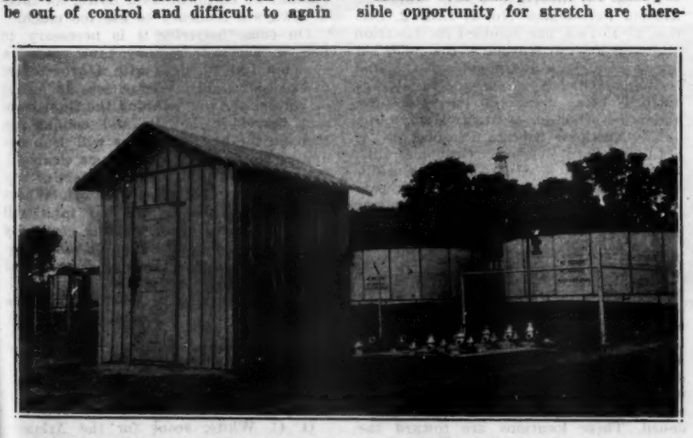
If all connections at well head are not securely anchored against the forces set up by the flow of high velocity oil and gas streams through them from well to traps it is nossible to strip threads on these fittings and cause leaks, and past experience with wild wells in the Oklahoma City area has proven that the smallest kind of a break in a connection will quickly enlarge to destructive proportions when the high pressure stream of sand impregnated oil and gas begin to escape there.



Well equipped with 3-inch connections between lower and middle master gates at casinghead.

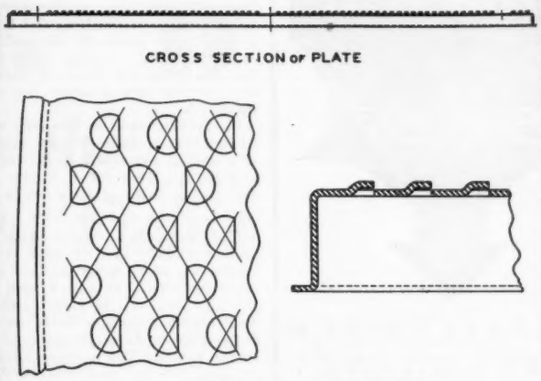
It is also a proven fact that these high pressure sand wells of the Oklahoma City Pool sometimes flow by heads, and when these slugs of oil are discharged from the flow string they sometimes carry large pieces of rock, or masses of packed sand that add to the danger of stripping connection threads.

Anchor rods that present the least possible opportunity for stretch are there-



Connections for Foamite or Fire Foam equipment for Empire Companies' No. 1 Refinery Site well, Oklahoma City Pool.

Billions of Bubbles



There's a Lot In a Slot

IT'S REALLY remarkable what a difference the shape and punching of a slot make.

To illustrate, there's the new Campbell High Efficiency absorber plate, details of which are here shown. This plate is a gratuitous improvement on the internationally-known "Oil-Froth" plate, whose efficiency has never been equalled by another make. The new plate is characterized by:

1. Simplicity—A single glance shows this.
2. Increased efficiency—Since each slot, by the very nature of its design, constitutes a direction-controlling portal (every hole is equipped with an individual deflector), the period of oil-and-gas contact is materially increased.

Imagine in a 7-foot absorber plate 4,600 holes, each equipped with a baffle that starts the gas surging in horizontal, zig-zag cross-flow! Imagine 4,600 separate gas currents jostling each other at every turn, trying to be the first to make the next section! What chance has a big bubble in such a mad rush? No chance at all. What, under other methods, might be a sizable bubble, here, as the result of thousands of head-on, side, and rear-end collisions, becomes a thousand tiny froth globules.

There's a lot to a slot. Ask for full particulars.

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A MASTERPIECE OF EFFICIENCY

The Baker HIGH Cement Whirler Shoe is, without question, one of the most important developments of recent years in floating, guiding, and cementing.

Without it, many of the difficulties which it has eliminated would be continuing to throw obstacles in the way of fast progress to the producing sands.

Its strong Baker-Formula Concrete guide assures undelayed progress of the string to bottom.

Its efficient Baker-designed Ball Check Valve assures floating properties which are dependable.

Its baffled slots give the cement a whirling, spiral motion which assures an even distribution and eliminates dangers of channeling.

Its totally NON-METALLIC inner construction is easily drilled out, leaving a clean hole, with no obstacles for coring or drilling.

It is a masterpiece of efficiency—use it.

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fore quite essential at well heads and too much caution cannot be exercised in their selection and installation, and one essential to safety is the elimination of all open hooks that might spread under heavy strains.

Careful Production Essential

Basicly every precaution that may be taken by the best engineering practice being applied to finishing and hooking up wells of this kind will be useless if the operators are not willing to recognize the fact that they are handling very dangerous natural forces when the wells are produced.

The Wilcox sand in this area will prove so rich that it would be most unfortunate if a well is permitted to get out of control in this area for it might result in the closing down of all wells in the zone because of the damages done.

The fear of wild wells which the citizens of Oklahoma City have is justified in the case of all wells that are not properly protected. Should a well close to the city get out of control as has occurred with several wells in the field, it is possible a large amount of damage would result. The present method used by many of the producing wells within the city limits by flowing them almost wide open to obtain high potentials production is a hazard which should be corrected. It can be eliminated by proper equipment and operation of wells. If a well is completed in a manner which will permit it to produce sand it is a potential hazard at all times.

CANADIAN FIELDS

(Continued from Page 53)

production about half the month, delivered 11,675 bbls. of crude naphtha in May, against 7,700 bbls. from Nos. 1 and 2-A in April. Alberta Superior Oils' No. 1, LSD 5, Section 21-19-2w5, is reported preparing to resume drilling at 65 feet. Mercury Oils' No. 6, LSD 12, Section 4-19-2w5, is drilling below 1,900 feet. Livingston Syndicate's No. 1, LSD 5, Section 34-18-2w5, is reported temporarily shut down at 1,500 feet.

Imperial Drilling

In the South Turner Valley, Merland Oil Co.'s No. 1, Section 27-18-2w5, has been unable to make a definite production test as the well again froze. When it is temporarily clear it indicates decidedly heavy flow and pressure, and gives promise of being one of the biggest naphtha producers in the field.

Lowery Petroleums' No. 2, NW Section 17-19-2w5, has finished an unsatisfactory production test in the lime at 6,433 feet and is making up 3-inch drill pipe to go deeper.

Shareholders of Associated Oil & Gas Co. held their annual meeting at Calgary when the following officers were elected: President, B. J. Green; vice president, G. M. Bell; secretary treasurer, W. M. Connacher; directors, E. A. Freeman, Major J. R. Lowery, F. Montague. The company has two producing wells in South Turner Valley, drilled by Imperial Oil, Ltd., and no further drilling is contemplated at present.

Central Turner Valley

In Central Turner Valley, Richfield Petroleum's No. 2, LSD 12-13, Section 13-20-3w5, is cementing cellar so back pressure can be applied for a definite production test. The wet gas flow is around 12,000,000 feet, and intermittent recovery indicates a good producer when back pressure is satisfactorily adjusted. Spooner Oils' No. 2, same section, has been shot, practically doubling its previous wet gas production to 7,000,000 feet, with estimated recovery of around 60 bbls. Nos. 1 and 4, same section, are each producing from 40 to 60 bbls.

Drilling in the Foothills

On the Moose Mountain structure, Graystone Consolidated's No. 1 (formerly Signal Hill's No. 2), LSD 9, Section 34-23-5w5, has resumed work. The test bottomed at 4,165 feet, but preparatory to drilling deeper a small shot was tried in an oil sand previously encountered at 4,123 feet. The drill is now cleaning out a bridge preparatory to testing production.

On the High River-Aldersyde structure, Ranchmen's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-29w4, is drilling at 4,815 feet with a further slight increase in gas flow.

Hudson's Bay Tests

In the Castor area, central Alberta. Hudson's Bay Oil & Gas Co.'s No. 1 Paintearth, LSD 5, Section 27-39-15w4, is drilling in the lime below 4,435 feet after making a successful water shut-off. The test is 825 feet in the lime at this depth, and about 405 feet below the salt water horizon. South of the well, considerable filing has been done by various interests in the Sullivan Lake district, but no tests have been planned there, pending the outcome of the Paintearth well.

In the Keho Lake district, southern Alberta, Hudson's Bay's Keho No. 1, LSD 2, Section 17-11-22w4, is drilling below 4,165 feet.

Border Fields

In the border fields, southern Alberta, Alberta Pacific Consolidated's No. 1 Cole-Hunter, LSD 3, Section 11-10-17w4, near Taber is making a bailing test of a sand drilled into at 3,330 feet.

On the Spring Coulee structure, Alberta Pacific Consolidated's No. 1, LSD 12, Section 15-4-23w4, is working on water shut-off, following which a production test of one of the upper sands will be made.

On the Canadian end of the Reserve Dome, east of Coutts, Mayland Southern's No. 1, LSD 13, Section 4-1-9w4, is drilling below 1,700 feet. No further gas has been met since the big shallow flow of around 4,000,000 feet was encountered at a reported depth of 900 feet. The gas is believed to come from the upper part of the Colorado shale, overlying the Bow Island sand; and Colorado shale horizon proved unproductive in other wells in this area, so the operators are encouraged to look for satisfactory production in the lower horizon. Location is on the north flank of the fold, and commercial production at this point will prove up a big area. Mayland Southern's No. 1 is about a mile north of the international boundary, the structural high being on the Montana side.

Red Coulee Field

On the Alberta end of the international Red Coulee structure, Southern Alberta Exploration Co.'s No. 2, Section 3-1-16w4, is bailing, and looks like a fair commercial producer at 2,410 feet. On the Montana end of the structure, Askalta Oils' No. 1 Cosmos is reported drilling. Alberta Drillers, Ltd., are reported to have resumed operations on Nellie Jane Oil Co.'s No. 1 Farbo, which has been shut down since last year at 1,300 feet.

Ribstone Field

In the Ribstone Field, east central Alberta, Rayco Oils' No. 1, LSD 3, Section 4-47-1w4, is at 2,215 feet, and will, it is reported, make a test of the deeper formations, after failing to get satisfactory production in the Ribstone sand. This is the first deep test in the producing section, though Ribstone Oils' No. 2, LSD 5, Section 25-46-1w4, some distance southwest, was carried to 3,230 feet before suspending operations.

Wainwright Test

In the Wainwright Field, Montreal-Alberta Petroleums' No. 1, LSD 2, Section 15-45-7w4, has spudded in. Location is in the Fabyan section of the field, not far from Fabyan Petroleum's No. 3 and Beaumont Oils' No. 2 producers. Rotary outfit is being used, and operations are under the direction of M. J. Williamson.

Northern Alberta Prospect

In northern Alberta, Crudome Oils, Ltd., of Toronto, with J. H. McCorkindale as field superintendent, is preparing to test holdings of some 32,000 acres in the vicinity of Mirror Landing, township 71-1w5, on the Athabaska River, where the E.D.&B.C. Railway swings west along the south shore of Lesser Slave Lake. The company's holdings are approximately 25 miles southeast of acreage tested some years ago and still held by International Oils, Inc., of New York. International Oils' No. 1 was drilled in Section 14-74-4w5, discontinuing at 2,840 feet; and a second test was carried to 3,105 feet before being abandoned. These locations are toward the eastern end of Lesser Slave Lake. Both the International tests got encouraging showings of oil and gas. Toward the west end of Lesser Slave Lake, Prairie Oils, Ltd., drilled a test for gas, which was unsuccessful. Gas flows and oil seepages are known at various points along the Athabaska, and some 75 miles northeast of Mirror Landing, several wells were drilled at Pelican Rapids, encountering gas in commercial quantities, but which was not marketed owing to its distance from a market. One gasser burned for upwards of 20 years. Further northeast are the Athabaska tar sand outcrops. It is claimed that drilling in the Mirror Landing area will encounter the tar sand horizon where it is more deeply buried and at a point where petroleum still remains in the sands in commercial quantities.

Prospect in Saskatchewan

In eastern Saskatchewan, Dr. G. S. Hume will this summer spend some six weeks for the Geological Survey of Canada investigating structures along the Battle River. The area covered will lie largely between Lloydminster, on the Alberta-Saskatchewan boundary, and North Battleford. Interest shown recently by Saskatchewan cities in the prospects of natural gas within the province has led the federal government to make a more detailed investigation. Information obtained in wells recently drilled in the eastern minor folds on the west flank of the main structure in this part of Saskatchewan has indicated a good chance of oil or gas production on the minor folds of the east flank.

Federal Office Continued

Announcement has been made that the Calgary office of the supervisory mining engineer, instead of being closed entirely, will be continued by the Dominion government for the time being with a reduced staff comprising Col. F. M. Steel, petroleum engineer, and Miss E. G. Kay, stenographer. Laboratory work will be discontinued; and the office will devote its attention largely to development on the Indian Reserves throughout Alberta.

TREATMENT OF OIL IN THE NOCONA FIELD

By E. E. Merkt

Production Supt., The Texas Company*

Nocona crude, being of low gravity, all has to be treated in some manner in the winter months. Most of our production (about 70 per cent) will treat without chemical, by keeping uniform heat on gun barrels. We use an inexpensive circulating ground heater, taking the water out of the bottom of gun barrel and discharging about middle of same. Temperature of gun barrels varies according to amount of heat needed. In case of a large amount of water to be handled it probably would be necessary to use a second gun barrel with this type of heater.

On leases where it is necessary to use chemical, we introduce the chemical into the wells through the casinghead, usually starting with too much and by frequent testing, arrive at the proper amount. One-half pint of chemical to 20 bbls. of oil is usually sufficient. A great deal depends on educating the pumper to keep the amount of chemical used down, as there is always a tendency to use too much.

On some batteries it is necessary to use an excelsior or hay tank, using a common 100-bbl. tank with 4½ or 5 feet of excelsior tightly pressed into 18 inches of bottom of tank, running the fluid from gun barrel in bottom and coming up through the hay, the water will drop out and oil go to the stock tank as clean oil. We use a 1-inch bleeder in bottom of hay tank to keep the water bled off. Where free water is present the hay tank will effect a big saving in treating costs. By cutting down pumping time of wells, regulating strokes, and keeping barrels and valves in proper shape, we have eliminated a great deal of treating on some leases.

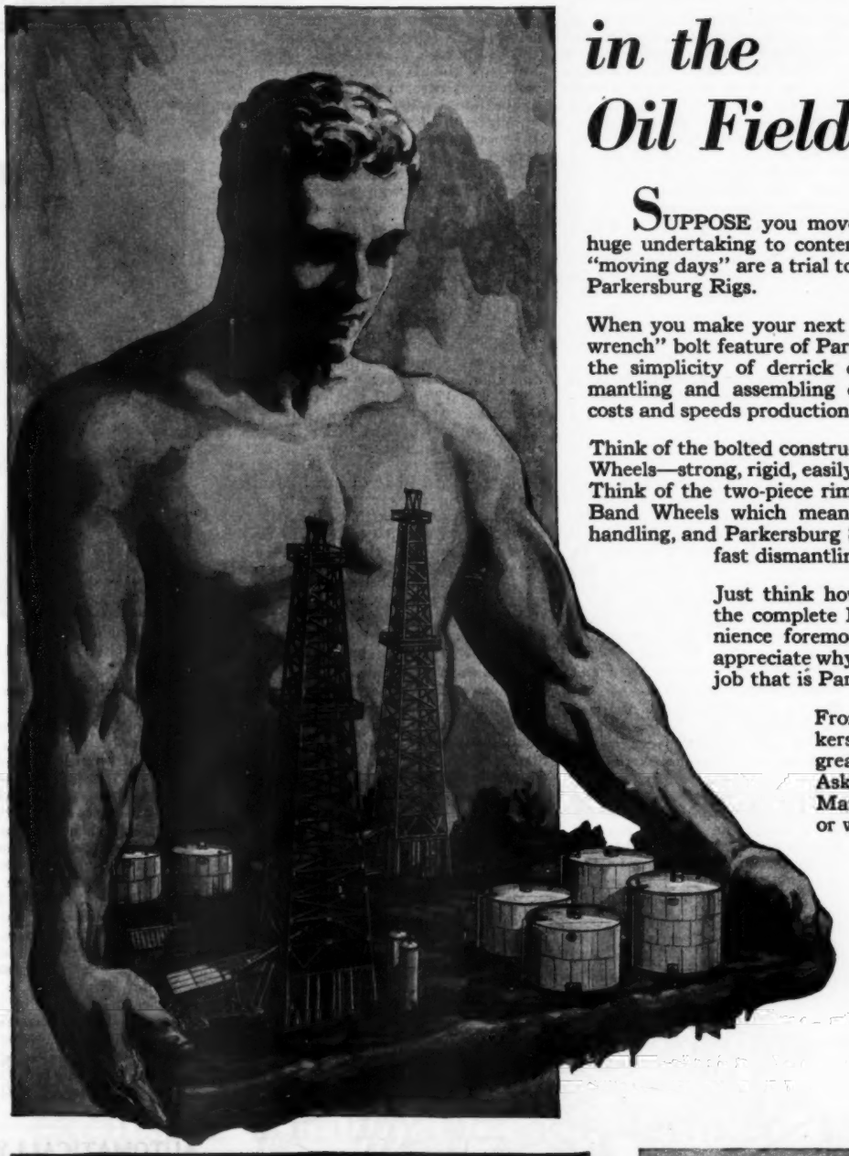
*Before Wichita Falls, Tex., chapter of the A.P.I. Division of Production.

O. C. WHITE DIES

O. C. White, scout for the Atlantic Production Co., died from pneumonia, at Carlsbad, N. Mex., June 5.

MOVING DAY

in the Oil Fields



SUPPOSE you moved a Rig every week! A huge undertaking to contemplate. Even infrequent "moving days" are a trial to oil men who do not have Parkersburg Rigs.

When you make your next move, think of the "one-wrench" bolt feature of Parkersburg Steel Derricks—the simplicity of derrick design which makes dismantling and assembling quick and easy—reduces costs and speeds production.

Think of the bolted construction of Parkersburg Steel Wheels—strong, rigid, easily assembled or dismantled. Think of the two-piece rim on Parkersburg Type P Band Wheels which means greater convenience in handling, and Parkersburg Steel Posts, fabricated for fast dismantling and greater portability.

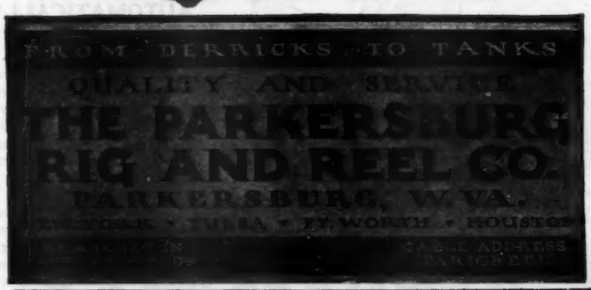
Just think how Parkersburg constructs the complete Rig with the user's convenience foremost in mind and you will appreciate why things move fast on every job that is Parkersburg equipped.

From Derricks to Tanks Parkersburg Quality results in greater Service and Economy. Ask the nearest Parkersburg Man about these advantages, or write for latest Bulletins.

THE PARKERSBURG RIG AND REEL CO.

TRADE MARK REG.

This Seal of Quality and Service on Parkersburg Equipment is Your Guarantee.

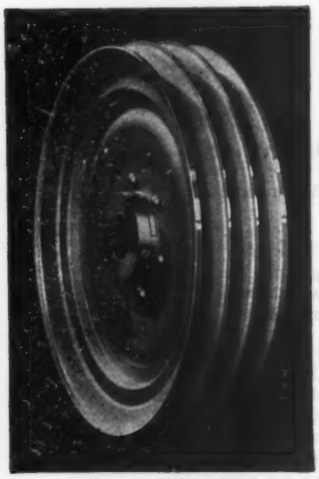


241-A

Oil Industry Equipment and Supplies

NEW TEXROPE SHEAVE IS OF DIE-PRESSED STEEL

A new type of pressed-steel Texrope sheave to meet the demand for a lightweight, low-priced drive, has been developed by the Allis-Chalmers Manufac-



turing Co., Milwaukee, Wis., and complete Texsteel drives are available from stock for immediate delivery.

Texsteel sheaves are die pressed from extremely tough steel and then each section is welded both at the web and at the rim to eliminate all vibration and noise and to give an accurate balance for true running. They are manufactured in a large range of diameters, permitting ratios as high as 6:1. They are painted with aluminum paint as protection and to give them a pleasing appearance.

CASE-TRACKSON CRAWLER TRACTOR PUT ON MARKET

The Model CD Case-Trackson crawler tractor has been announced by the Trackson Co., Milwaukee, Wis., manufacturer of the crawler. The unit is powered by the Case "CI" tractor made by the J. I. Case Co., Racine, Wis. This combination has been developed to meet the power needs of industrial users who require a flexible, economical unit that is able to work in any ground or weather conditions, and that is suited both to drawbar use and to the operation of other equipment. It has a low speed which provides tremendous power for heavy hauling, a medium speed with plenty of power for average jobs, and a high speed for light drawbar work and quick return trips.

The wide, ground-gripping Trackson crawlers provide sure footing and positive traction, which are necessary for work in loose dirt, sand, or cinders, in soft, slippery mud or snow, on steep banks, or in other difficult conditions. The tracks prevent slippage and deliver the full power of the engine to the drawbar. Also the broad, flat surface of the tracks and their large area of contact with the ground reduces the ground pressure of the unit to approximately 4 pounds per square inch, permitting it to work with ease where horses or trucks would be useless.

The Curtis-Wright Flying Service, 350 West Thirty-first Street, New York, is operating an "Exchange Library," consisting of articles by engineers and executives at various bases on aerial surveying and other airplane activities. These articles, of interest to all in the aviation field, may be obtained on request.

BROWN DEVELOPS NEW POTENTIOMETER PYROMETER

By Thomas R. Harrison
Director of Research, The Brown Instrument Co.

A new potentiometer pyrometer in indicating, recording, multiple recording, and controlling types has been developed by the Brown Instrument Co., Philadelphia, Pa., for use in the heat treatment of steel, brass and alloy parts, the refining of oil, electric furnace control, etc. There are two general types of thermoelectric pyrometers, the millivoltmeter and the potentiometer. For certain requirements the millivoltmeter type is more suitable, whereas for other requirements the potentiometer type is preferable.

The new Brown potentiometer has some 55 features which are new, the most important of which are described below. High accuracy, easily maintained throughout the life of the instrument, was considered to be of prime importance in its design.

The accompanying illustration shows the operation of the new Brown pyrometer, a Null type potentiometer in which the galvanometer A directs the operation of mechanism to rebalance the circuit for each change in emf that is measured.

At intervals of every few seconds the galvanometer pointer B is lightly clamped. A step on the selector table C rests gently against the pointer and positions a rugged secondary pointer D. The step lever E periodically moves downward into contact with the secondary pointer and rotates gear G secured to shaft H. The amount of rotation depends upon the position of the secondary pointer. The rotation of shaft H readjusts the slide wire contact J and simultaneously moves the pen P.

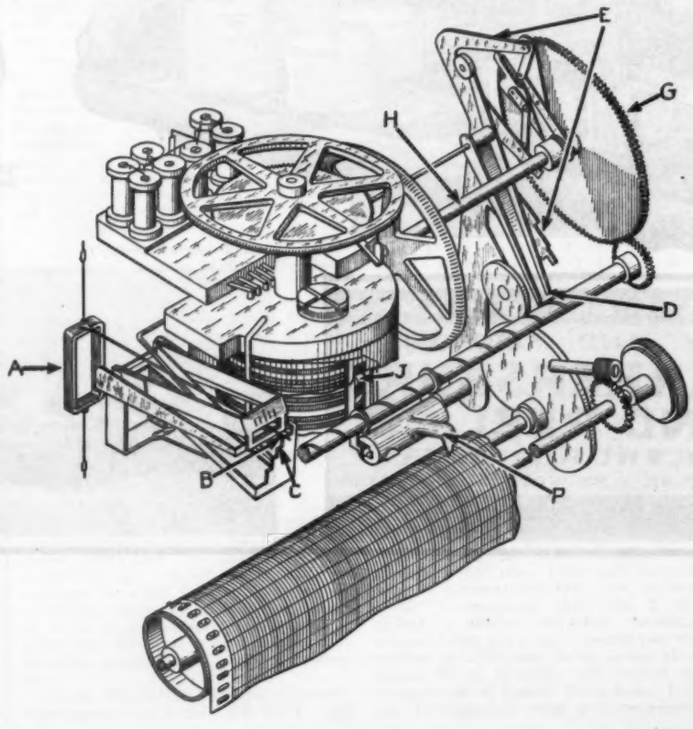
The Brown galvanometer is designed to have a uniformly high responsiveness under all practical operating conditions. The balancing mechanism exerts no strain upon the galvanometer pointer and the mechanical movements of the secondary pointer are comparatively large. As a result, no adjustments are needed to take up the wear on either the pointer or contacting mechanism and the highest accuracy is maintained over long periods of continuous operation.

The charts and scales 12 inches wide, an exceptional width, were produced with great care to conform to the latest calibration values for iron-constantan, chromel-alumel, and platinum-rhodium thermocouples. In order to derive full benefit from these carefully made charts, it is necessary to make suitable corrections for the natural expansion and contraction of the chart paper that takes place with changes in atmospheric humidity. It is because of this expansion and contraction that strip charts have oblong holes at one side of the paper. Such expansion and contraction can cause errors of over 1 per cent of the reading of some chart ranges unless corrections are made. To eliminate such errors, a humidity compensator is built into the instrument and this automatically corrects the pen position and brings it into proper register with respect to the chart markings. Also, the charts are printed under a standard condition of humidity.

Another original feature is the sturdy, dust-proof case that is equally suitable for wall mounting, front-of-board mounting, flush type panel mounting, or table mounting. The same instrument may be procured for wall mounting and subsequently mounted flush on a panel board.

RUSCO APPOINTS JOBBERS

The Russell Manufacturing Co., Middletown, Conn., manufacturer of Rusco brake linings and more than 400 other automotive fabric products, announces the following distributors: J. W. Butts, 198 Church Street, Poughkeepsie, N. Y.; Genuine Auto Parts, 410 Washington Street, Utica, N. Y.; L. E. Pin, 22-26 Railroad Street, Holyoke, Mass.; Auto Brake Parts Co., 1308 McKinney Avenue, Dallas, Tex.; Rusco Products Co., 2040-42 Broadway, Denver, Colo.; the Fiske Leavitt Co., 640 Pleasant Street, Beloit, Wis.



MEN KNOWN *in* THE EQUIPMENT FIELD

Dr. S. M. Kintner, formerly assistant vice president of the Westinghouse Electrict & Manufacturing Co., has been elected vice president in charge of engineering for that company, succeeding W.

Dr. S. M. Kintner

S. Rugg, who was made vice president in charge of sales.

In 1894 Doctor Kintner was graduated from Purdue University, where he studied electrical engineering. After spending a year on telephone construction and operation, he became assistant to Professor Fessenden at the University of Pittsburgh. He then was made assistant professor of mathematics and later professor of engineering, succeeding Professor Fessenden. He worked on many investigations on Hertz waves, X-rays and other phenomena. He resigned in 1903 to enter the research department of the Westinghouse Electric & Manufacturing Co., of which he later became manager.

Doctor Kintner is a member of the American Institute of Electrical Engineers, American Physical Society, Engineers Society of Western Pennsylvania, Institute of Radio Engineers, National Research Council, the Franklin Institute, Edgewood Country Club and the Sigma Chi Fraternity.

AUTOMATICALLY GOVERNS INTENSITY OF THE DRAFT

One of the more recent developments in our oil burner field is the draft stabilizer brought out by the Silent Automatic Corp., Detroit, Mich. The purpose of it is to control automatically the intensity of the natural draft, an important factor, especially when starting an oil burner.

The draft stabilizer is attached to the vertical or horizontal smoke pipes of any domestic type of heater. It has a mechanically counterbalanced damper which swings free on a lever arm in the smoke pipe. It can be adjusted to a fine setting for the most efficient flame and assure its stability. When set for the most efficient oil burner operating conditions it adjusts itself to compensate for varying draft conditions.

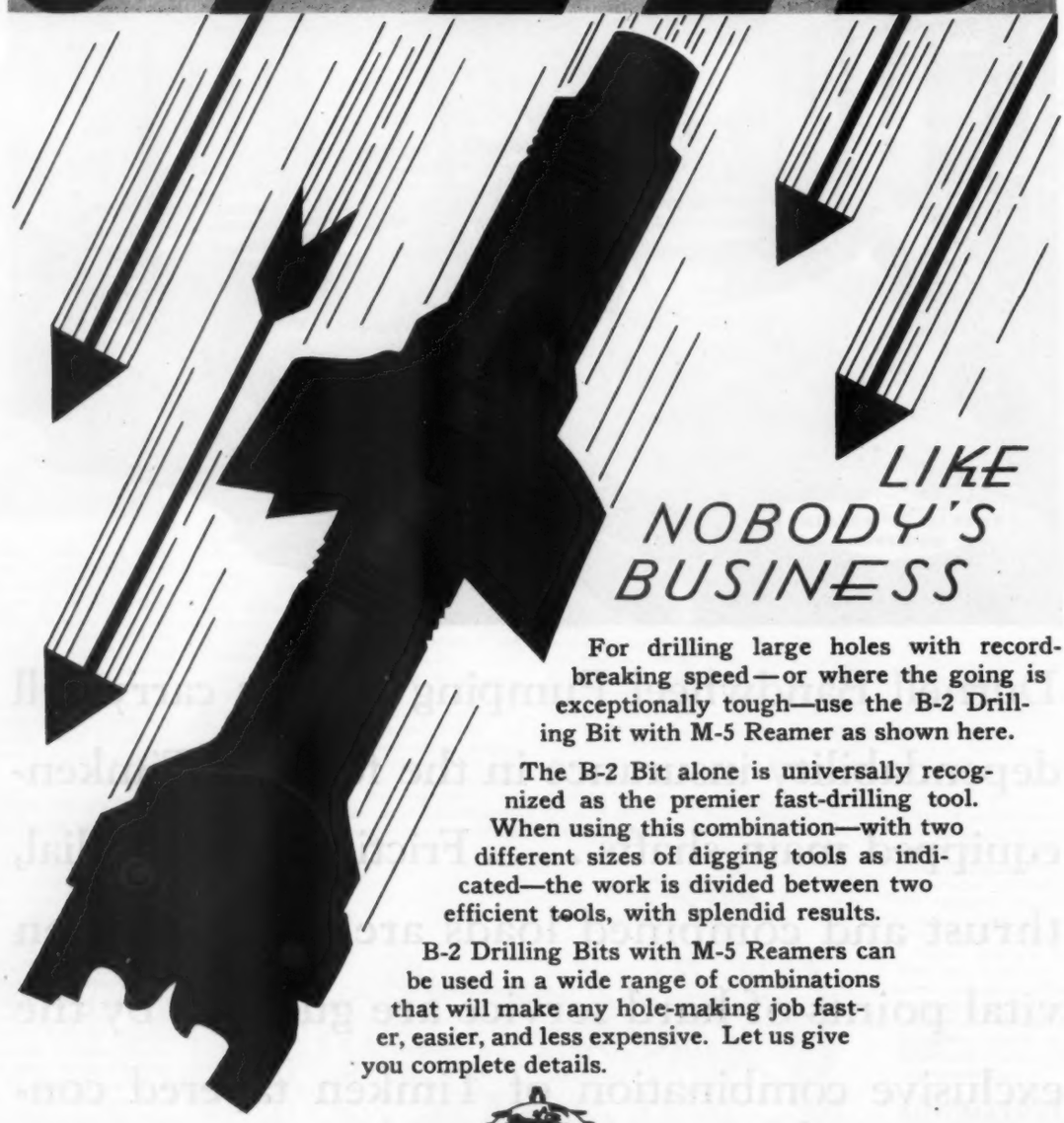
The manufacturer says that it reduces excess air, lessens stack loss and betters the economy of operation through maintaining stability.

Durnell Bandwheel Pumping Powers carry full dependability insurance in the form of Timken-equipped main shafts .... Friction, wear, radial, thrust and combined loads are helpless when vital points of hard service are guarded by the exclusive combination of Timken tapered construction, Timken positively aligned rolls and Timken-made steel. Specify Timken-equipped.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *Tapered Roller* **BEARINGS**

SPEED



LIKE NOBODY'S BUSINESS

For drilling large holes with record-breaking speed—or where the going is exceptionally tough—use the B-2 Drilling Bit with M-5 Reamer as shown here.

The B-2 Bit alone is universally recognized as the premier fast-drilling tool. When using this combination—with two different sizes of digging tools as indicated—the work is divided between two efficient tools, with splendid results.

B-2 Drilling Bits with M-5 Reamers can be used in a wide range of combinations that will make any hole-making job faster, easier, and less expensive. Let us give you complete details.

GLOBE OIL TOOLS CO.

LOS NIETOS, CALIFORNIA.

SUCCESSORS TO

H. C. Smith Manufacturing Co., Inc. — Wieman-Kammerer-Wright Co., Inc., — National Tool & Metals, Inc.

BRANCHES:

Kettleman Hills, Calif. Ventura, Calif. Bakersfield, Calif. Taft, Calif. Longview, Texas Hobbs, New Mexico Oklahoma City, Okla.

Oil Industry Equipment and Supplies

RITE-LO-SPEED MOTOR IS LATE DEVELOPMENT

A late development in power transmission and direct motor drive equipment, the Rite-Lo-Speed motor, is being introduced by the J. D. Christian-Engineers of San Francisco and Los Angeles. It embodies a standard footless stator

and rotor and heat-treated alloy steel helical gears. These are ball-bearing mounted and arranged in a compact manner so that the entire assembly is scarcely larger than the motor itself.

The motor has been developed in cooperation with the manufacturers of United States Asbestos-protected motors. The gear end of the assembly presents a design in which there are only two gears and two pinions. A heavy overhung pull can be taken on the final shaft without the use of an outboard bearing, according to Mr. Christian. The oiling case is sealed from the motor. The entire assembly is protected by a dirt-proof and water-proof housing.

The manufacturers have placed the motor on a production basis in four series. Series A is standard, comprised of the motor and housing with a single power takeoff. Series B is a single motor unit with a gear housing at each end having two power takeoffs at the same speed. Series C is the same as Series B with the exception that it has two power takeoffs at different speeds. Series D is a single motor unit with gear housing at one end with power takeoff at reduced speed, and with a high speed motor shaft extended through the rear end bell. J. D. Christian-Engineers have prepared a bulletin describing the motor and a copy may be obtained by writing to the factory, 512 Brannan Street, San Francisco.

DOUBLE SEALED BEARING IS MARKETED BY HOWELL

The Howell Electric Motors Co., Howell, Mich., announces a new double-sealed ball-bearing as the standard antifriction bearing on all Red Band motors. The balls and ball raceway of this bearing are packed in a high quality congealed oil and completely sealed in a dust-proof room at the point of manufacture. This keeps injurious abrasives from entering the interior of the bearing in the process of manufacture.

The seal, which consists of two plates, one on each side, prevents any injurious foreign material from entering raceway in operation. It makes a motor bearing which runs free at all times because of the absence of channeling of grease and eliminates excessive pressures caused by over-greasing.

As this bearing needs lubrication it automatically uses only the fine oily part of the grease in the outside bearing chamber, or the upper bearing chamber in a vertical motor. The inside bearing chambers on the horizontal motors or the lower bearing chambers on the vertical motors contain no grease which can be forced into the motor.

NOTES ABOUT TRADE LITERATURE

Two new bulletins on electric motors have been prepared by the Louis Allis Co., Milwaukee, Wis., one on Louis Allis multispeed motors and one on explosion-proof, fan-cooled motors.

Squirrel cage motors are the subject of a bulletin issued by the Wagner Electric Corp. of St. Louis, Mo. It discusses seven distinct types of squirrel cage motors, comparing them as to their starting torques, starting currents and cost.

The American Meter Co., Erie, Pa., announces a 220-page general catalog and reference book (G-1, 1931), covering products and operating data for the measurement and testing of manufactured, natural or liquefied petroleum gases.

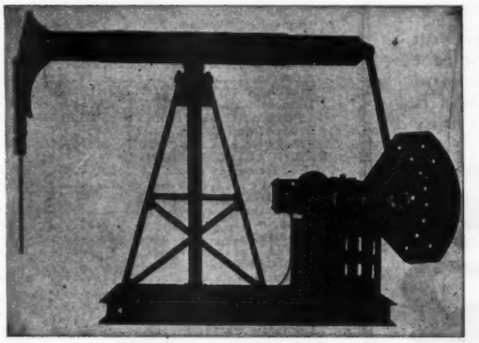
The Cooper-Bessemer Corp., Mount Vernon, Ohio, is distributing a folder which contains illustrations and specifications of the new stationary Type JT Diesel engine. Bore is 11½-inch, stroke 15-inch. Cylinders are three, four, six or eight in number. Rated horsepowers are 150-180, 200-240, 300-360, 400-480 when operating within the speed range of 300-360 r.p.m. with cast-iron pistons.

"Small Generator Units and Their Applications," a 12-page publication identified as Circular 1,908, by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., describes four types of generators used where a small amount of electrical energy is necessary, but where no central station supply is available.

The U. S. Stoneware Co., 50 Church Street, New York, is mailing on request a reprint of the paper, "Quick-Setting Silicate of Soda Cements for Acid-Proof Tank and Tower Construction," by Foster Dee Snell and Howard Farkas, which was delivered at the 1931 meeting of the American Chemical Society in Indianapolis.

HAS GEARS, MOTOR AND CONTROL BUILT INTO ONE CASE

New unit pumping powers, OP-300 series, developed jointly by the Nuttall Works of the Westinghouse Electric & Manufacturing Co. and the Oil Well Supply Co., embody advancements which the manufacturers say make reduction in petroleum lifting costs possible.



The entire drive—reduction gears, motor and control—is combined into a single compact unit of weather-proof construction, eliminating the necessity for any shelter house. This unit drive assembly requires only one foundation and once in place there remains only the connection of three wires between the control and the power supply. All other wiring is done during manufacture.

The high torque squirrel-cage type a-c motor is reduced to its bare elements of rotor and primary core with coils. It has no separate frame, no feet, shaft, brackets, or bearings. A flexible coupling also is eliminated. The primary winding is pressed into a housing securely bolted to the upper section of the gear case. Tack welds prevent the core from turning in this housing. The rotor is lightly pressed and keyed onto an overhung extension of the high speed gear shaft. Lateral movement of the rotor on the shaft is further prevented by a plate pressing against the laminations and securely held on the end of the shaft by a lock nut.

Complete control including main disconnect switch is assembled on a panel mounted in a weather-proof compartment cast integrally with the upper section of the gear case. The control is operated from the exterior of the case by means of two push buttons ("Start" and "Stop") arranged in a small compartment with a cover which may be locked to prevent tampering. The control may be set either to restart automatically after a power failure or to remain shut down until manually restarted by the pumper.

The triple reduction gear unit has heat-treated helical gearing in the first and second reductions to assure a commercially quiet unit, and ground tooth spur gearing in the final reduction BP "tough-hard" heat-treated to withstand the severe service incident to oil well pumping.

All gearing is carried on alloy steel, heat-treated shafts which are supported by antifriction bearings. A positive splash system lubricates constantly all gears, shafts and bearings.

The small sized gears in the first reduction are keyed on overhung tapered shafts and held securely by lock nuts. This set of gears is in a separate compartment and constitutes the "change gears," a patented feature by which the number of pumping strokes can be varied by substituting gears of different ratios.

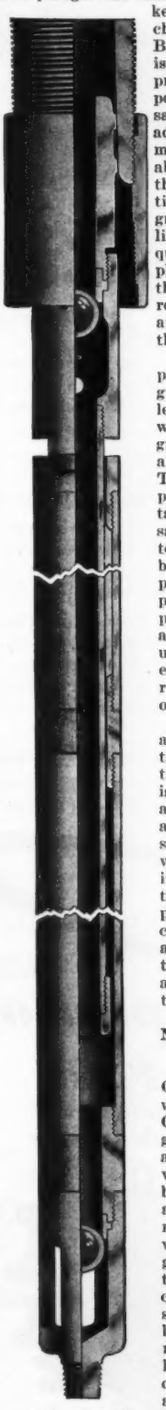
Still further variations in the number of strokes can be obtained by using motors of different speeds which the housing on each size of unit is designed to accommodate.

The walking beam, pitman, sampson post and base of these pumping powers are of all-steel construction, with riveted joints supplemented by welding at points where greatest stress and shock are likely to occur. A cast-iron subbase supports the gear unit. The walking beam is so mounted on the sampson post that it may be easily swung aside to provide clearance for lines, elevators, etc., when pulling, swabbing or cleaning the well.

The Oil Well Supply Co., through its branch stores, is sole distributor of these new pumping powers.

INSERT PUMP DESIGNED FOR SMALL PRODUCERS

An insert pump with a ground liner and plunger has been placed on the market by the Hopper Machine Works, Inc., of Bakersfield, Calif. It is designed for wells producing 200 bbls. per day or less and is said to be especially advantageous for wells making sand or other abrasive deposits with the oil. The construction with precision ground plunger and liner requires less frequent pulling for replacement. Being of the insert type, it is removed with the rods and does not require the pulling of tubing.



The pump has a plunger 6 feet long, ground its entire length and working with a cast-iron liner ground to ten-thousandths of an inch. This permits the pumping of oil containing considerable sand and foreign matter. The liners are bored to the largest possible size in new pumps to permit the plunger to take several regrinds. The liners used with these smaller plungers are then reground to the larger or new plungers.

Two sizes are available at the present time, the 2½-inch and the 3-inch. The stroke is 48 inches. All cages and fittings are made according to A.P.I. standards. Among advantages are a saving in time and expense, the elemination of pulling tubing to change the pump with a resulting cut in the time off production, and longer periods between changes.

NEW GEAR BLANK

Lukenweld. Inc., of Coatesville, Pa. (division of Lukens Steel Co.), primarily engaged in the design and manufacture of welded steel assemblies for machinery and equipment, is manufacturing all-welded rolled steel gear blanks for use in the manufacture of cut gears. The welded steel blank, which can be employed in the manufacture of spur, herringbone and helical gears, can be made any size from 24-inch outside diameter up. The largest all-welded gear blank made up to the present time is one with a shipping weight of 4,350 pounds.

While the all-welded gear blanks are ordinarily made entirely from S.A.E. 1,020 carbon steel, the rims can be furnished in steels of special analyses if desired.

***Outdoors*, too . . . Louis Allis "Explosion-Proof" Motors are *needed* and *used*!**

Here is one of seven motorized pumps handling hot gasoline from the stabilizers at a large natural gasoline plant near Seminole, Oklahoma.

Although installed out-of-doors, the driving motors are frequently surrounded by explosive vapors from the pumps . . . because gasoline vapors, being heavier than air, cling to the ground.

Consequently, Louis Allis Type E "Explosion-Proof" motors were selected . . . to protect this modern plant from the fire hazard which exists wherever non-approved motors operate in explosive atmospheres.

With L.A. "Explosion-Proof" motors and starters, you are not *guessing* at safety. Your *assurance* is the fact that these motors and starters are definitely tested and approved by Underwriters' Laboratories for Class I. explosive atmospheres where petroleum vapors may occur.

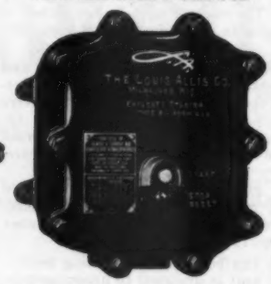
Be on the safe side! Follow the leaders! Standardize on

LOUIS ALLIS

Companion Pioneers

The *First* "Explosion-Proof" Fan-Cooled Motor

The *First* "Explosion-Proof" Air-Break Starter



THE LOUIS ALLIS COMPANY
Milwaukee, Wis.

Sales Offices: Tulsa, Houston, Shreveport, St. Louis, Chicago, Detroit, Cleveland, Pittsburgh, New York, Philadelphia, Boston, Buffalo, Los Angeles, San Francisco . . . and other principal cities.

REPORT OF BUREAU OF MINES FOR THE MONTH OF APRIL, 1931

SUPPLY AND DEMAND OF ALL OILS

(Including wax, coke and asphalt in thousands of barrels of 42 U.S. gallons)

	April, 1931	March, 1931	April, 1930	Jan.-Apr., 1931	Jan.-Apr., 1930
NEW SUPPLY:					
Domestic production:					
Crude petroleum	72,101	69,397	77,191	269,134	308,755
Daily average	2,437	2,239	2,573	2,248	2,573
Natural gasoline	3,824	4,048	4,428	15,643	17,662
Benzol	187	194	253	737	984
Total production	77,112	73,639	81,872	285,514	327,401
Daily average	2,570	2,375	2,729	2,379	2,728
Imports:					
Crude petroleum	4,162	3,715	5,781	17,019	20,379
Refinable products	3,458	4,065	3,214	14,041	13,957
Total new supply, all oils	84,732	81,419	90,867	316,574	361,737
Daily average	2,824	2,626	3,029	2,638	3,014
Increase in stocks, all oils	56	*2,048	*1,992	*9,777	9,523
DEMAND:					
Total demand	84,676	83,467	92,859	326,351	352,214
Daily average	2,823	2,692	3,095	2,720	2,935
Exports:					
Crude petroleum	1,826	1,586	1,900	7,041	7,383
Refined products	8,164	7,241	12,482	33,488	47,369
Domestic demand	74,686	74,640	76,477	285,822	297,462
Daily average	2,490	2,408	2,616	2,382	2,479
Excess of daily average domestic production over domestic demand	80	†33	113	†3	249
STOCKS (end of month):					
Crude petroleum:					
East of California	356,565	357,663	385,925	356,565	385,925
California‡	141,418	141,547	149,802	141,418	149,802
Total crude	497,983	499,210	535,727	497,983	535,727
Natural gasoline at plants	1,006	884	709	1,006	709
Refined products	157,304	156,143	162,253	157,304	162,253
GRAND TOTAL STOCKS, ALL OILS	656,293	656,237	698,689	656,293	698,689
Days' supply	232	244	226	241	238
Bunker oil (included above in domestic demand)	4,044	3,666	4,234	14,876	16,599

*Decrease. †Deficiency. ‡Includes residual fuel oils.

COMPARATIVE ANALYSES

(Thousands of barrels of 42 U.S. gallons)

	April, 1931 Total	April, 1931 Dy. av.	March, 1931 Total	March, 1931 Dy. av.	Jan.-Apr., 1931	Jan.-Apr., 1930
CRUDE PETROLEUM:						
Runs to stills: Domestic	70,716	2,357	69,264	2,234	267,090	294,058
Foreign	3,990	133	4,332	140	16,487	19,205
Total	74,706	2,490	73,596	2,374	283,577	313,263
Imports	4,162	139	3,715	120	17,019	20,379
Exports	1,826	61	1,586	51	7,041	7,383
MOTOR FUEL:						
Production	36,601	1,220	35,246	1,137	135,883	146,487
Imports	1,348	45	1,607	52	5,019	4,720
Exports	4,187	140	2,946	95	16,642	22,474
Stocks*	48,587	....	48,225	....	48,587	54,435
Domestic demand	33,400	1,113	31,037	1,001	117,414	117,559
KEROSENE:						
Production	3,397	113	3,676	119	13,804	18,074
Imports	2	....	1	....	4	53
Exports	766	26	1,163	38	4,199	6,538
Stocks	6,129	....	6,300	....	6,129	8,068
Domestic demand	2,804	93	2,691	87	10,363	12,616
GAS OIL AND DISTILLATE FUELS:						
Production	7,512	250	8,730	282	30,773	25,331
Stocks	14,912	....	14,064	....	14,912	13,988
RESIDUAL FUEL OILS:						
Production	22,561	752	22,024	710	85,764	103,414
Stocks†	18,942	....	18,041	....	18,942	19,662
GAS OIL AND FUEL OIL:						
Production	30,073	1,002	30,754	992	116,537	128,745
Imports	2,091	70	2,449	79	8,967	9,000
Exports	2,232	74	2,360	73	10,027	13,472
Stocks	33,854	....	32,105	....	33,854	33,650
LUBRICANTS:						
Production	2,316	77	2,293	74	9,086	11,920
Imports	3	....	3	....	11	9
Exports	716	24	547	18	2,507	3,498
Stocks	10,463	....	10,710	....	10,463	9,649
Domestic demand	1,850	62	1,950	63	7,098	7,051
WAX (thousands of pounds):						
Production	33,040	1,101	37,520	1,210	151,760	218,680
Imports	3,842	128	1,289	42	10,811	10,731
Exports	21,372	712	30,470	983	97,409	91,229
Stocks	205,105	....	208,620	....	205,105	241,853
Domestic demand	19,024	634	29,133	940	92,649	85,921
COKE (short tons):						
Production	168,400	5,613	170,400	5,497	648,600	596,300
Stocks	1,157,800	....	1,089,100	....	1,157,800	817,000
ASPHALT (short tons):						
Production	247,800	8,260	190,200	6,135	751,100	905,100
Stocks	360,000	....	354,100	....	360,000	292,800
ROAD OIL:						
Production	169	6	114	4	500	1,090
Stocks	305	....	292	....	305	339
MISCELLANEOUS:						
Production	1,019	34	821	26	3,389	1,653
Stocks	703	....	774	....	703	534

*Includes motor fuel blends held at natural gasoline plants and in gasoline pipe line systems. †East of California.

INDICATED DOMESTIC DEMAND FOR CRUDE PETROLEUM EAST OF CALIFORNIA

(Thousands of barrels of 42 U. S. gallons)

Domestic petroleum by fields of origin:	April, 1931 Total	April, 1931 Dly. av.	March, 1931 Total	March, 1931 Dly. av.	Jan.-Apr., 1931	Jan.-Apr., 1930
Appalachian:						
Pennsylvania Grade	1,921	64	1,737	56	7,153	8,113
Other (including Kentucky)	699	23	681	22	2,832	3,182
Lima, northeast Indiana, Michigan	332	11	433	14	1,162	1,588
Illinois-southwest Indiana	612	21	392	13	1,971	2,624
Mid-Continent:						
North Louisiana and Arkansas	2,645	88	3,056	99	12,342	13,389
West Texas-southeast New Mex.	9,373	329	9,415	304	39,087	42,010
Other (Okla., Kans., North Texas, etc.)	35,074	1,169	33,427	1,078	124,576	127,857
Gulf Coast:						
Grade A	2,137	71	2,357	76	9,147	11,640
Grade B	3,208	107	3,676	119	13,206	11,494
Rocky Mountain	2,059	69	1,514	49	6,420	7,553
California	....	....	....	....	.....	91
Total demand	58,565	1,952	56,688	1,829	217,886	229,541
Exports	1,353	45	933	30	4,414	4,283
Domestic demand	57,212	1,907	55,755	1,799	213,472	225,258
Foreign petroleum	3,992	133	4,283	138	16,167	19,808
Total domestic demand east of Calif.	61,204	2,040	60,038	1,937	229,639	245,066

(Continued on Next Page)

PRODUCTION OF CRUDE PETROLEUM BY STATES

(Thousands of barrels of 42 U. S. gallons)

	April, 1931		March, 1931		Jan.-Apr.,	Jan.-Apr.,
	Total	Dly. av.	Total	Dly. av.	1931	1930
Arkansas	1,381	46	1,432	46	5,723	6,756
California:						
Long Beach	2,638	88	2,789	90	10,962	12,665
Santa Fe Springs	2,149	72	2,204	71	8,571	18,812
Rest of State	11,017	367	11,372	367	44,053	49,861
Total California	15,804	527	16,365	528	63,586	81,338
Colorado	128	4	135	4	528	573
Illinois	378	13	372	12	1,535	1,998
Indiana:						
Southwestern	66	2	58	2	259	318
Northwestern	3	....	4	....	15	16
Total Indiana	69	2	62	2	274	334
Kansas	3,172	106	3,292	106	12,597	13,209
Kentucky	528	18	611	20	2,209	2,521
Louisiana:						
Gulf Coast	880	29	783	25	3,335	2,354
Rest of State	1,141	38	1,209	39	4,783	4,811
Total Louisiana	2,021	67	1,992	64	8,118	7,165
Michigan	261	9	291	10	1,056	1,436
Montana	256	9	255	8	1,004	954
New Mexico	1,197	40	1,181	38	4,650	1,360
New York	269	9	265	8	1,093	1,389
Ohio:						
Cent. and East.	375	12	389	13	1,511	1,779
Northwestern	90	3	91	3	377	445
Total Ohio	465	15	480	16	1,888	2,224
Oklahoma:						
Oklahoma City	5,431	181	4,489	145	15,126	10,224
Seminole	4,596	153	4,862	157	18,531	31,358
Rest of State	7,723	257	7,935	256	30,649	34,740
Total Oklahoma	17,750	591	17,286	558	64,306	76,322
Pennsylvania	926	31	916	30	3,614	4,804
Tennessee	1	....	1	....	4	4
Texas:						
Gulf Coast	4,511	150	4,425	143	17,825	20,805
East Texas	7,533	251	2,887	93	11,188	.....
West Texas	6,820	228	7,310	236	28,977	39,966
Rest of State	7,921	264	8,138	262	32,267	37,760
Total Texas	26,785	893	22,760	734	90,257	98,531
West Virginia	376	13	376	12	1,477	1,834
Wyoming:						
Salt Creek	778	26	801	26	3,116	3,580
Rest of State	556	18	524	17	2,099	2,423
Total Wyoming	1,334	44	1,325	43	5,215	6,003
Total United States	73,101	2,437	69,397	2,239	269,134	308,755

STOCKS OF CRUDE PETROLEUM

(Thousands of barrels of 42 U. S. gallons)

	Apr. 30, 1931	Mar. 31, 1931	Apr. 30, 1930
EAST OF CALIFORNIA:			
At refineries by location:			
East Coast: Domestic	9,323	9,321	8,646
Foreign	3,597	3,437	5,203
Appalachian	2,358	2,481	3,105
Indiana, Illinois, Kentucky, Michigan, etc.	2,758	2,581	3,516
Oklahoma, Kansas and Missouri	5,507	5,146	5,473
Texas: Inland	1,393	1,357	2,226
Gulf Coast: Domestic	7,220	7,503	10,893
Foreign	340	345	288
Arkansas and inland Louisiana	562	429	1,034
Louisiana Gulf Coast: Domestic	5,750	5,591	4,194
Foreign	768	753	1,165
Rocky Mountain	1,837	1,843	1,645
Total	41,413	40,786	47,388
At refineries by origin:			
Pennsylvania Grade	2,015	2,214	2,787
Other Appalachian (including Kentucky)	792	782	921
Lima, northeast Indiana, Michigan	194	162	224
Illinois-southwest Indiana	122	94	127
North Louisiana and Arkansas	3,772	3,605	4,728
West Texas and southeast New Mexico	4,181	4,792	4,160
Oklahoma, Kansas, North Texas, etc.	16,948	16,324	17,639
Gulf Coast: Grade A	2,534	3,001	4,817
Grade B	4,313	3,534	3,650
Rocky Mountain	1,832	1,838	1,643
California	5	5	36
Foreign	4,705	4,535	6,656
Total	41,413	40,786	47,388
Pipe line and tank farm:			
Pennsylvania Grade	5,720	5,681	5,286
Other Appalachian (including Kentucky)	1,048	1,043	1,003
Lima, northeast Indiana, Michigan	1,576	1,579	894
Illinois-southwest Indiana	10,044	10,249	10,206
North Louisiana and Arkansas	18,843	19,128	21,240
West Texas and southeast New Mexico	40,892	42,175	51,994
Oklahoma, Kansas, North Texas, etc.	187,916	187,238	197,972
Gulf Coast: Grade A	5,809	5,861	7,931
Grade B	11,416	11,653	11,373
Rocky Mountain	25,488	25,770	24,588
Total	308,752	310,377	332,487
Total refinery, pipe line and tank farm	350,165	351,163	379,875
Producers'	6,400	6,500	6,050
Total crude east of California	356,565	357,663	385,925
CALIFORNIA: Light	40,840	41,016	44,166
Heavy (including fuel)	100,578	100,531	105,636
Total crude (including fuel oil in California)	497,983	499,210	535,727

SHIPMENTS FROM CALIFORNIA TO EASTERN PORTS IN UNITED STATES*

(Thousands of barrels of 42 U. S. gallons)

	Apr., 1931	Mar., 1931	Jan.-Apr., 1931	Jan.-Apr., 1930
Gasoline	1,292	1,643	5,240	5,831
Natural gasoline	73	....	469	....
Kerosene	....	42	88	99
Gas oil	185	192	862	1,323
Diesel oil	....	....	....	144
Fuel oil	....	....	2	13
Lubricants	11	13	37	61
Asphalt	2	2	6	8
Total	1,563	1,892	6,704	7,479

*Compiled by E. T. Knudsen of the San Francisco office of the Bureau of Mines.

NUMBER OF WELLS COMPLETED IN THE UNITED STATES*

	Apr., 1931	Mar., 1931	Jan.-Apr., 1931	Jan.-Apr., 1930
Oil	519	383	1,839	4,270
Gas	152	182	754	784
Dry	393	381	1,612	2,141
Total	1,064	946	4,205	7,195

*From The Oil and Gas Journal and California office of the American Petroleum Institute.

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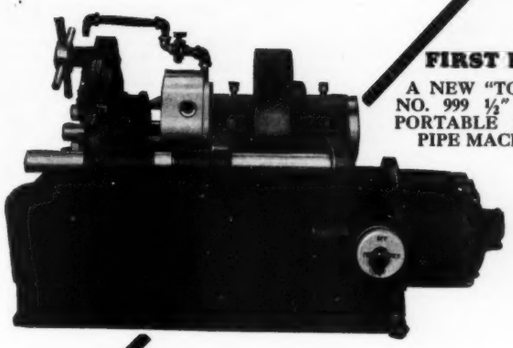

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SHIPMENTS OF MOTOR FUEL BY PIPE LINES

(Thousands of barrels of 42 U. S. gallons)

	April, 1931	March, 1931	Jan. Apr., 1931
Motor fuel turned into lines	513	420	1,396
Motor fuel delivered from lines	419	256	1,061
Stocks in lines and working tanks end of month	535	441	535

PRODUCTION AND DISTRIBUTION OF NATURAL GASOLINE

(Thousands of barrels of 42 U. S. gallons)

	April, 1931		March, 1931		Jan.-Apr., 1931	
	Total	Dly av.	Total	Dly. av.	Total	Dly. av.
Production	3,824	127	4,048	131	15,643	130
Decrease in all stocks	....	....	....	....	....	....
Total	3,824	127	4,048	131	15,643	130
Blended at refineries	2,789	93	3,008	97	11,984	100
Run through pipe lines in California	88	3	73	2	303	2
Blended at plants east of California	13	1	14	1	53	1
Jobbers, exports, etc.	350	8	350	11	1,275	11
Increase in all stocks	189	6	377	12	854	7
Balance	495	16	226	8	1,174	9
Total	3,824	127	4,048	131	15,643	130

IMPORTS AND EXPORTS OF CRUDE PETROLEUM AND MAJOR REFINED PRODUCTS*

(Thousands of barrels of 42 U. S. Gallons)

	April, 1931		Mar., 1931		Jan.-Apr.,	Jan.-Apr.,
	Total	Dy.av.	Total	Dy.av.	1931	1930
CRUDE PETROLEUM:						
Imports	4,162	139	3,715	120	17,019	20,379
From Mexico	773	26	240	8	1,780	1,972
From Venezuela	2,493	83	1,550	60	9,329	12,632
From Colombia	834	28	1,367	44	5,192	5,018
From other countries	62	2	258	8	718	767
Exports:						
Domestic crude oil	1,826	61	1,586	51	7,041	7,383
To Canada	1,499	50	1,180	38	5,423	5,534
To other countries	327	11	406	13	1,618	1,849
REFINED PRODUCTS:						
Gasoline:						
Imports	1,348	45	1,607	52	5,019	4,720
Exports†	4,187	140	2,946	95	15,642	22,474
To United Kingdom	1,214	40	751	24	4,992	6,718
To France	408	14	320	10	2,020	3,615
To Canada	362	12	146	5	867	904
To other countries	2,034	68	1,627	53	7,320	10,811
Shipments	168	6	102	3	443	426
Kerosene:						
Exports	766	26	1,163	38	4,199	6,528
To China	116	4	92	3	526	936
To United Kingdom	151	5	314	10	1,110	878
To other countries	498	16	745	24	2,517	4,581
Shipments	13	1	12	1	46	142
Gas oil and fuel oil:						
Imports	2,091	70	2,449	79	8,967	9,000
Exports	2,232	74	2,260	73	10,027	13,472
To Chile	256	8	248	8	1,220	1,628
To Panama	217	7	153	5	1,040	1,139
To other countries	1,621	54	1,576	51	6,750	9,229
Shipments	138	5	283	9	1,017	1,476
Lubricants:						
Exports	716	24	547	18	2,507	3,498
To United Kingdom	171	6	130	4	487	707
To France	92	3	109	4	466	492
To other countries	446	15	302	10	1,530	2,264
Shipments	7	...	6	...	24	34
Wax (thousands of pounds):						
Imports	3,842	128	1,289	42	10,811	10,731
Exports	21,373	712	30,470	983	97,409	91,229
To United Kingdom	6,435	214	4,481	145	21,762	18,024
To Italy	3,381	113	10,025	323	20,866	14,045
To other countries	11,553	385	15,961	515	54,770	59,152
Shipments	4	...	3	...	11	8

*From Bureau of Foreign and Domestic Commerce. †Includes benzol, 31,000 bbls. in April.

RUNS TO STILLS AND OUTPUT OF REFINERIES, APRIL, 1931

(Thousands of barrels of 42 U. S. Gallons)

	Crude oil			Unfinished oils rerun	Natural gasoline	Total input
Input—	Domestic	Foreign	Total			
East Coast	9,963	3,640	13,603	1,010	79	14,692
Appalachian	2,880	....	2,880	230	42	3,152
Ind., Ill., Ky., etc.	9,773	....	9,773	215	225	10,213
Okla., Kans., Mo.	8,947	....	8,947	248	422	9,617
Texas	18,483	66	18,549	1,331	799	20,679
Louisiana and Arkansas	4,323	284	4,607	533	283	5,423
Rocky Mountains	1,765	....	1,765	349	93	2,207
California	14,582	....	14,582	280	*934	15,796
Total United States	70,716	3,990	74,706	4,196	2,877	81,779
Texas Gulf Coast	13,203	66	13,269	1,265	430	14,964
Louisiana Gulf Coast	2,673	284	2,957	212	183	3,352

			Gas oil and fuel oils				Wax (thou-
Output—	Gaso-line	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Total	Lubri-cants	sands of pounds)
East Coast	5,229	495	1,580	4,604	6,184	692	13,440
Appalachian	1,380	303	187	403	590	410	8,400
Ind., Ill., Ky., etc.	5,618	407	942	1,446	2,388	258	3,360
Okla., Kans., Mo.	5,189	719	978	1,740	2,718	243	1,960
Texas	9,239	821	1,742	5,778	7,520	472	3,920
Louisiana and Arkansas	2,178	244	495	1,566	2,061	51	560
Rocky Mountains	1,094	70	77	343	420	49	1,400
California	6,224	338	1,511	6,681	8,192	141	....
Total United States	36,151	3,397	7,512	22,561	30,072	2,316	33,040
Texas Gulf Coast	6,541	632	1,468	3,786	5,254	442	3,640
Louisiana Gulf Coast	1,418	187	318	920	1,238	33	560

			Other finished products			Unfin-	
	Coke (tons)	Asphalt (tons)	Road oil	Miscel-laneous	Total	ished products	Short-age
East Coast	10,600	124,500	45	38	83	609	612
Appalachian	1,900	10,900	5	36	41	196	132
Ind., Ill., Ky., etc.	58,400	32,900	10	426	436	489	126
Okla., Kans., Mo.	30,500	1,500	5	139	194	41	401
Texas	44,900	16,700	4	25	29	1,249	1,014
Louisiana and Arkansas	10,300	29,300	2	124	126	274	271
Rocky Mountains	10,200	1,300	23	36	59	376	75
California	800	30,700	75	205	280	50	298
Total United States	168,400	247,800	169	1,019	1,188	3,284	3,030
Texas Gulf Coast	34,500	16,700	4	3	7	1,075	732
Louisiana Gulf Coast	10,600	20,600	..	96	96	63	153

*Includes 88,000 bbls. run through pipe lines.

PRODUCTION OF CRUDE PETROLEUM BY FIELDS WITH CLASSIFICATION BY GRAVITY

(Thousands of barrels of 42 U. S. gallons)

	April, 1931		March, 1931		Jan.-Apr.,	Jan.-Apr.,
FIELD:	Total	Dly. av.	Total	Dly. av.	1931	1930
Appalachian:						
Pennsylvania Grade	1,761	59	1,751	57	6,932	9,018
Other (including Kentucky)	714	24	807	26	2,976	3,313
Lima, northeast Indiana, Michigan	354	12	386	13	1,448	1,897
Illinois-southwest Indiana	444	15	430	14	1,794	2,316
Mid-Continent:						
North Louisiana and Arkansas	2,522	84	2,641	85	10,506	11,567
West Texas-southeast New Mex.	7,976	266	8,458	273	33,457	41,133
Other (Okla., Kans., North Texas, etc.)	36,376	1,212	31,603	1,019	120,358	127,291
Gulf Coast:						
Grade A	1,624	54	1,670	54	7,110	11,214
Grade B	3,767	125	3,538	114	14,050	11,945
Rocky Mountain	1,759	59	1,748	56	6,917	7,723
California	15,804	527	16,365	528	63,586	81,338
Total	73,101	2,437	69,397	2,239	269,134	308,755
CLASSIFICATION BY GRAVITY (approx.):						
Light crude	66,466	2,216	62,616	2,020	241,950	272,009
Heavy crude	6,635	221	6,781	219	27,184	36,746

GASOLINE PRODUCTION BY THE VARIOUS METHODS, APRIL, 1931

(Thousands of barrels of 42 U. S. gallons)

	Straightrun		Cracked		Natural gasoline		Grand
	Total	%	Total	%	Total	%	total
East Coast	2,227	44	2,873	55	79	1	5,229
Appalachian	785	57	553	40	42	3	1,380
Ind., Ill., Ky., etc.	2,770	49	2,623	47	225	4	5,618
Okla., Kans., Mo.	2,924	56	1,843	36	422	8	5,189
Texas	4,659	50	3,781	41	799	9	9,239
Louisiana and Arkansas	881	40	1,014	47	283	13	2,178
Rocky Mountain	505	46	493	45	93	9	1,094
California	3,880	62	1,410	23	934	15	6,224
Total	18,684	52	14,590	40	2,877	8	36,151
Texas Gulf Coast	2,965	45	3,146	48	430	7	6,541
Louisiana Gulf Coast	498	35	740	52	185	13	1,418

PRODUCTION OF MOTOR FUEL

(Thousands of barrels of 42 U. S. gallons)

	April, 1931		March, 1931		Jan.-Apr.,	Jan.-Apr.,
	Total	Dly. av.	Total	Dly. av.	1931	1930
Straightrun gasoline	18,684	623	17,817	575	67,604	77,686
Cracked gasoline	14,590	486	13,790	445	53,927	51,894
Natural gasoline:						
Blended at refineries	2,789	93	3,008	97	11,984	14,096
Blended at plants*	13	1	14	1	53	101
Run through pipe lines†	88	3	73	2	303	826
Jobbers, exports, etc.	350	8	350	11	1,275	900
Benzol produced‡	187	6	194	6	737	984
Total motor fuel	36,601	1,220	35,246	1,137	135,883	146,487

*East of California. †To refineries in California. ‡Estimated.

RECORD OF WELLS FOR IMPORTANT FLUSH FIELDS, APRIL, 1931*

	Completions			Barrels		
	Oil	Gas	Dry	Total initial prod.	Average initial prod.	Drilling Apr. 30
Texas	313	25	311	1,423,300	4,500	729
Darst Creek	6	...	2	4,600	800	...
Rusk-Gregg	197	...	19	1,304,900	6,600	134
West Texas	17	...	16	3,500	200	120
California	17	...	18	16,700	1,000	269
Long Beach	1	...	1	200	200	24
Playa Del Rey	4	...	1	1,200	300	16
Santa Fe Springs	...	...	...	...	...	1
Oklahoma	67	26	46	217,900	3,300	300
Oklahoma County	28	..	1	203,300	7,300	82
Pottawatomie County-Seminole County	12	1	2	9,000	800	13
New Mexico	3	...	...	5,400	1,800	47
Lea County (Hobbs)	2	...	...	5,400	2,700	7
Other states	119	101	118	19,600	200	1,103
Total United States	519	152	393	1,682,900	3,200	2,448

*From The Oil and Gas Journal and California office of the American Petroleum Institute.

STOCKS HELD BY REFINING COMPANIES, APRIL 30, 1931*

(Thousands of barrels of 42 U. S. gallons)

		Gas oil and fuel oil		
	Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Total
East Coast	3,620	1,257	3,066	4,703	7,769
Appalachian	1,980	333	756	527	1,283
Ind., Ill., Ky., etc.	5,931	573	1,097	2,116	3,213
Okla., Kans., Mo.	4,145	481	2,198	2,878	5,076
Texas	7,590	940	2,889	6,398	9,287
Louisiana and Arkansas	2,414	468	657	1,650	2,307
Rocky Mountain	3,027	251	128	670	798
California	†15,336	1,826	4,121	(‡)	4,121
Total	48,043	6,129	14,912	18,942	33,854
Texas Gulf Coast	5,840	862	2,472	3,771	6,244
Louisiana Gulf Coast	2,231	444	460	993	1,453

		Wax (thousands of pounds)			
	Lubricants	Crude scale	Refined	Total	Coke (tons)
East Coast	3,284	32,404	12,893	45,297	25,300
Appalachian	1,269	23,982	4,136	27,118	6,400
Ind., Ill., Ky., etc.	1,184	22,721	2,130	24,851	91,600
Okla., Kans., Mo.	720	1,111	1,753	2,864	95,100
Texas	2,552	945	13,524	14,469	§32,700
Louisiana and Arkansas	202	63,817	1,119	64,936	76,000
Rocky Mountain	220	24,097	1,473	25,570	119,400
California	1,031	.....	.....	.....	111,300
Total	10,463	168,077	37,028	205,105	1,157,300
Texas Gulf Coast	2,433	945	13,345	14,290	568,200
Louisiana Gulf Coast	183	63,817	1,119	64,936	75,900

		Other finished products			Unfinished oils		
	Asphalt (tons)	Road oil	Miscel-laneous	Total	Natural gasoline	Other	Total
East Coast	145,200	52	73	125	233	9,247	9,480
Appalachian	24,300	5	63	68	14	1,443	1,457
Ind., Ill., Ky., etc.	65,900	1	232	233	32	5,122	5,154
Okla., Kans., Mo.	5,300	8	26	34	65	3,054	3,119
Texas	7,500	8	12	20	275	15,058	15,333
Louisiana and Arkansas	60,700	2	9	11	12	2,200	2,232
Rocky Mountain	4,800	133	32	165	.....	1,805	1,805
California	46,300	96	356	352	1,595	‖8,470	10,065
Total	360,000	305	703	1,008	2,226	46,419	48,645
Texas Gulf Coast	7,400	8	5	13	254	13,815	14,069
Louisiana Gulf Coast	37,900	....	4	4	1	1,656	1,657

*Stocks east of California represent inventories held by refining companies at or near refineries; California stocks represent inventories held by refining companies on the Pacific Coast of the United States at refineries, at or in transit to water terminals and bulk distributing stations. †Includes 342,000 bbls. engine distillate. ‡Included with heavy crude. §Includes 2,703,000 bbls. tops.

KANSAS FIELDS

(Continued from Page 28)

1 Stevenson, C SW NE, Section 24-33-5, is rigging up. Lewis Production Co.'s No. 1 Stark, SE cor. NE NW, Section 19-34-7, has been abandoned at 3,092 feet.

Franklin County

Hayhurst & Smith's No. 1 Robbins, SE cor. SW, Section 9-16-18, is drilling at 750 feet.

Greenwood County

Gore and Tidal Oil Co. moved a machine in for No. 1 Davis, NW cor. SE, Section 6-24-12. Gore and others' No. 1 Smith, SW cor. NE, Section 6-24-12, has been completed for 175 bbls. in sand 1,711-32 feet, total depth 1,744 feet. Bruch and others' No. 1 Cutler, NE cor. NW NW, Section 5-26-11, is dry and abandoned at 2,018 feet.

McPherson County

McPherson Oil & Gas Co. and Shell Petroleum Corp.'s No. 2 Hill, C SW NE, Section 10-19-2w, is a rig. No. 4 Decker, C NE SE, Section 11-19-2w, is a location. Ritz Oil & Gas Co. and Shell Petroleum Corp. made location for No. 1 Koeh, SE cor. NE, Section 16-21-3w. Graham Brothers' No. 1-A Rolander, SE cor. SW SW, Section 30-18-2w, is dry and abandoned at 3,046 feet. Twin Drilling Co., Phillips Petroleum Co. and Shell Petroleum Corp.'s No. 1 Wiles, SE cor. NE, Section 25-19-2w, has been completed for a potential of 2,464 bbls. from Viola lime 3,397-3,409 feet. Syndicate Oil & Gas Co. and Shell Petroleum Corp.'s No. 1 Becker, SE cor., Section 36-19-2w, made a potential of 1,214 bbls. in Viola lime 3,398-3,418 feet. Miller, Shell Petroleum Corp. and others' No. 1 Blair, NW cor., Section 32-19-1w, has been completed for 63 bbls. in Viola lime 3,431-65 feet after plugging back from 3,475 feet. Phillips Petroleum Co.'s No. 2 Morehouse, NW cor., Section 3-21-3w, an old well deepened, has been completed for 25 bbls. at 3,464 feet after plugging back from 3,497 feet.

Marshall County

Blasey and others' No. 1 Kunkel, NE cor. SE NW, Section 13-2-6, is spudding.

Marion County

Harwood Oil Co.'s No. 1 Mott, SW cor. SE NW, Section 11-17-4, is dry and abandoned at 2,412 feet.

Morton County

Texas Interstate Pipe Line Co.'s No. 1 Simmons, C SE, Section 16-32-39w, made 2,909,565 feet of gas in sand 2,600-2,805 feet.

Ness County

Gypsy Oil Co.'s No. 1 Colman, C SW NE, Section 25-17-25w, is dry and abandoned at 4,807 feet.

Reno County

McPherson Oil & Gas Co. and Shell Petroleum Corp.'s No. 1 Goering, SW cor. NE, Section 1-23-4w, made 100 bbls. from chat 3,270-3,362 feet.

Rice County

Hipple & Rogers' No. 1 Rainey, NW cor. SE, Section 3-21-6w, Welch Pool, has been completed for 300 bbls. pinched, producing at 3,404 feet.

Rooks County

Empire Oil & Refining Co.'s No. 1 Holsman, SW cor. NE SE, Section 17-7-20w, is dry and abandoned at 3,688 feet.

Russell County

Stearns & Streeter and Hall's No. 1 Miller, SW cor. SE SE, Section 30-14-13w, made 120 bbls. from sand 2,900-04 feet.

Saline County

Stanolind Oil & Gas Co. and others' No. 1 Martin, NE cor. SE SE, Section 3-16-3w, is a dry hole at 3,534 feet.

Sedgwick County

Scroggin and others' No. 1 Wall, SE cor. SW NE, Section 4-28-1, is a rig. Shell Petroleum Corp.'s No. 3-A Lygrisse, SW cor. NE, Section 15-26-2, has been deepened to 3,197 feet and completed for 1,200 bbls. Lario Oil Co. and Connell and others' No. 1 Heckard, SW cor. SE NW, Section 18-27-2, is dry and abandoned at 3,377 feet. Magnolia Petroleum Co.'s No. 5 Wheeler, SW cor. NE NE, Section 19-27-2, has been completed for 240 bbls. in chat 2,962-67 feet. E. B. Shawver's No. 2 Robbins, NE cor. NW SW, Section 21-28-1, has been abandoned at 3,515 feet.

Stevens County

Texas Interstate Pipe Line Co.'s No. 1 Loflin, C SE, Section 1-33-38w, made 3,467,000 feet of gas from sand 2,607-2,795 feet. Kenny Coastal and others' No. 1 Baldridge, C NE, Section 10-35-39w, has been completed for 11,000,000 feet of gas in sand 2,578-2,725 feet.

SEISMOGRAPH WORK WITH EXISTING WELLS

(Continued from Page 24)

tially greater depth than has heretofore been possible by the usual surface methods of operation. To date this method has been used only in connection with wildcat wells. It is now proposed to greatly extend its usefulness by utilizing existent wells that have been drilled off the flanks of known domes. Literally hundreds of such wells are available at the present time for this purpose, since any well open to a depth of from 4,000 to 6,000 feet, or deeper can be used for the purpose. It does not matter whether the well is pumping or whether it is a dry hole. If a flowing well is used it may be necessary to restrict its flow during the period it is being used for the test. The proposal here is to select any suitable well off the flank of the dome, as at A in Figure 2, and, after placing the detector down near the bottom of the well, shoot a fan of perhaps 60 to 90 degrees angle off the same side of the dome as the well. Then another well, as at B would be used, as shown. On this basis, in order to explore the territory entirely surrounding the dome, it would be necessary to have between four and six wells located at suitable places around the dome. It is estimated that by this method a thorough exploration of the entire territory within 3 to 3½ miles from the flank of the known dome can be made down to a depth exceeding by from 1,000 to 2,500 feet the depth of the well used in making the test.

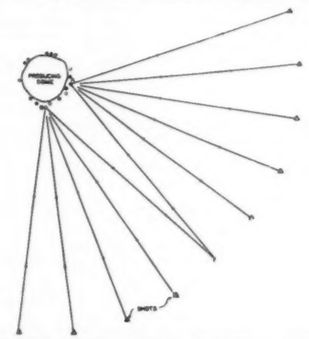


Figure 2—Plan diagram illustrating method for deep exploration of region surrounding known domes.

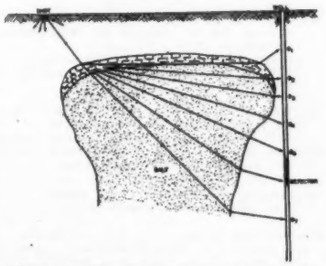


Figure 3—Sectional diagram showing the use of a well for profiling the mushroomed flank of a salt dome. Patent applied for.

Such a deep exploration of the area surrounding known domes might reveal a number of deep seated twin domes.

Deep Profiling of Salt Domes

The problem of profiling deep down the flank of salt domes has heretofore presented very serious difficulties, and because of these difficulties few serious attempts have been made to profile more than the top of the dome and extending a very short distance over the shoulder. The recent successful use of the above described method of placing detectors down in wells and exploring the surrounding country for deep seated domes has opened the way for the development of an accurate method of profiling down the sides of salt domes to depths of from 5,000 to 6,000 feet. A method for accomplishing this purpose has always been considered extremely desirable, but it has recently become of vastly greater importance with the discovery of the mushrooming tendency on certain salt domes in the Gulf Coast.

It will not be attempted here to elaborate on the importance of this subject since its importance is now well understood. It is well, however, to call attention to a method recently developed for making accurate profiles far down on the sides of a dome.

The general method of procedure is simple and will be rendered evident by an inspection of Figure 3. Here a shot is placed as shown at some convenient point on the opposite side of the dome from the well which is being used in the exploration; a detector is let down in the well to any suitable position such as D_1 and a shot taken. The detector is then lowered in the well to the point D_2 and so on, shots being taken with the detector spaced at suitable intervals down to the bottom of the well. It will be readily understood that the overall time of travel of the shot to various detector positions is a function of the spacing between the well and the salt mass. With a knowledge of the velocity of sound in rock salt and its velocity in the deep lying shales, together with the geometrical relationships involved, it is possible to calculate the form of the profile of the dome opposite the well with considerable accuracy. In this way it can be determined with certainty whether or not the dome slopes continually outwards or whether it recedes with increasing depth as shown in Figure 3.

If mushrooming is found to exist, the position of the flank of the dome, relative to the well, can be determined with considerable accuracy to a depth almost as great as that of the well.

In view of the very large number of deep, or moderately deep wells, now existing around various salt domes in the Gulf Coast, many of which are, or could be made, available for work of this kind, it is apparent that this method may have extensive application. Any well open to the desired depth can be used for this work and no injury to producing wells would result from their use for this purpose.

A further application of this method consists in the determination of the position of a fault plane at various depths as shown in Figure 4. Here, for instance, a well which was drilled too far back from the fault plane to obtain production is used in determining the position of the fault plane for the purpose of making a second location.

Detection of Mushrooming

Utilizing the method discussed above for profiling down the sides of salt domes will determine not only the existence of mushrooming, should such exist, but will also determine with sufficient accuracy for all practical purposes, the extent of the mushroom condition.

This, however, can only be done by the method outlined above in a zone immediately adjoining a well being used for the test. It is possible, however, by an extension of this method, to determine definitely the existence of mushrooming on a wide zone on the opposite side of the dome from that on which the well is located. The procedure here is illustrated in Figure 5. Here the detector is placed at any suitable depth down in the well and a shot is fired some 4 or 5 miles away from the dome on the same side of the dome as the well is located; this shot point is designated as Shopt Point 1 in Figure 5, its position being indicated by the arrow. When the shot is several miles away from the dome, experience has shown that under these conditions the wave front, instead of being spherical becomes ellipsiodal, the deeper portions of the wave front being far in advance of the shallower portions as shown in the curved line representing such a wave front in Figure 5. Because of this bulging of the wave front with increasing depth, that part of the wave front which first reaches the detector at D_4 will be far in advance of the position

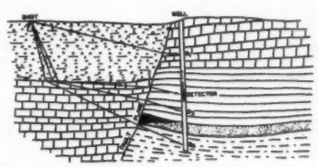


Figure 4—Diagram showing use of well for determining the position of a fault plane at various depths. Patent applied for.

of the same wave front which reaches a series of detectors on the surface at D_2, D_3 and D_4. If the dectors at all four of these positions be connected with a recorder, the amount of lead of the deeper portions of the wave front over the surface portion can be accurately recorded on a film.

Now another shot is placed at Shot Point 2 on the opposite side of the dome, and also a detector D_5 is placed on the surface at a suitable point approximately symmetrical with respect to D_3 in relation to the dome. This shot is recorded on D_5 at the surface, also D_4 in the well

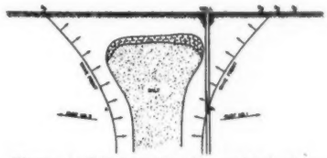
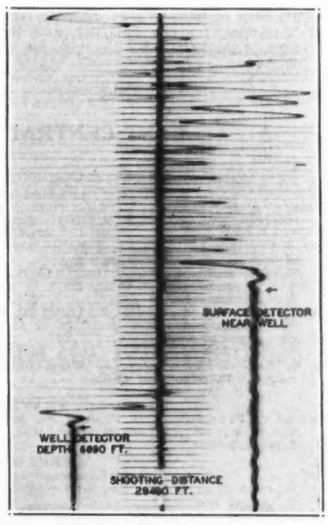


Figure 5—Diagram showing method of exploring the side of a dome opposite a well for mushrooming. Patent applied for.

on the opposite side of the dome. Assuming the wave front to be the same from Shots 1 and 2, it is possible, after determining the time of arrival of the wave at D_5, to calculate the position of the deeper portions of the wave front and therefore determine quite definitely the position of a portion, such as A for example, at a definite known time. From this, and the recorded time of arrival of the same wave at D_4 the interval time between the positions A and D_4 is obtained; knowing this interval time and the velocity of sound in the shales and salt, also having previously profiled that side of the dome next to the well by the method shown in Figure 3, the position



A typical record made with the special seismic wave detector in a well at a depth of 6,690 feet (left trace). Note higher velocity as compared to detector on surface near well (right trace). Shooting distance was 29,490 feet. The middle trace was not used.

of a point at a definite depth on the flank of the dome opposite the well can then be calculated.

This operation can be carried out not only on a line directly opposite the well, but similar lines can be shot, making an angle of from 30 to 45 degrees on either side of the diametral line. Therefore, by use of a single well not only can the flank of the dome next to the well be accurately profiled, but a definite determination of the existence or nonexistence of mushrooming anywhere within about a 90-degree angle on the opposite side of the dome may be made.

It will be apparent, therefore, that with two, or at the most, three wells, properly selected around any given dome, the entire periphery of the dome can be thoroughly explored for mushroom conditions.

OKLAHOMA NATURAL GAS RATES REDUCED IN STATE

Domestic rates for natural gas in all cities and towns in Oklahoma served by the Oklahoma Natural Gas Corp. will be reduced to a maximum of 50 cents per 1,000 feet as a result of an agreement between Gov. William H. Murray, Chairman Paul Walker of the Oklahoma Corporation Commission and officials of the gas company. The reduction was made voluntarily by the company. New rates are temporary and are to become effective July 1. The agreement will not operate to increase rates in any town where present rates of the company are less than 50 cents. Under the agreement the governor dismisses his suit filed in the supreme court for a receivership against the Oklahoma Natural and the company dismisses its suit filed in the federal court to prevent the Corporation Commission from enforcing its temporary rate for natural gas for the months of February, March and April, 1931.

The commission is to continue its general investigation to determine upon final rates to be charged by the company throughout the State. The commission also reserves the final adjudication of the proper rates for February, March and April, 1931, to be determined in connection with the general investigation of approximately $1,000,000 to gas consumers of the State. Those who participated in the conference with the governor and Chairman Walker were R. C. Allen, general counsel, and E. A. Olsen, vice president, both of Tulsa; Maj. Eugene Kerr of Muskogee, for the company, and Reford Bond appearing for small lessees at Chickasha.

AMBROSE PROMOTED BY EMPIRE COMPANY

A. W. Ambrose, formerly manager of the oil production division and the geological and land departments and a vice

A. W. Ambrose

president of the Empire Oil & Refining Co., has been made assistant general manager of the company, according to the announcement made by H. R. Straight, vice president and general manager.

Mr. Ambrose was made a vice president of the Empire Oil & Refining Co. in April, 1930. Before entering the service of the Empire Companies as manager of the geological and land departments, he was associated with the United States Bureau of Mines. He entered the service of the Empire company in April, 1925.

WILLIAM KAMMERER DIES

OIL CITY, Pa., June 13.—William Kammerer, 62, is dead at his home in Los Angeles, Calif., after a year's illness. He was born in Pleasantville and after operating in the oil industry in this section, went to the Bradford Field and later to California. He was the founder of the Columbia Oil Co., and for many years was field manager for the Associated Oil Co., in California.

EAST CENTRAL TEXAS WILDCATS

(Continued from Page 41)

DALLAS COUNTY

Paris' No. 1 Wilkinson, 2,787 ft. from NW and 3,241 ft. from SW of John P. Anderson Sur. ..... T. D. 870 ft.; shut down.

DELTA COUNTY

Delta Development Co.'s No. 2 Mallie Ablowich, 300 ft. S of No. 1 Cooper, Townsite Sur. ..... Reaming to bottom; T. D. 3,128 ft.

D. S. Hood's No. 1 J. J. Balser, 185 ft. from S and 530 ft. W of Balser 40-ac. tract in SE cor. T. B. Laddin Sur. ..... Drlg. 1,560 ft.

Worthington and Stedman's No. 1 W. H. Dejehett, 150 ft. from S and 776 ft. from W of 52-ac. tract, E. Chick Sur. ..... Shut down 1,927 ft.

ELLIS COUNTY

E. M. Roger's No. 1 John Lee Winn, 1,650 ft. from E and 510 ft. from S of Orland ..... Shut down 1,360 ft.; drill stem in hole.

FRANKLIN COUNTY

George L. Pace and L. B. Pruitt's No. 1 C. E. Cowan, 150 ft. out of NE cor. of 92-ac. tract and survey, Lipscomb Sur. ..... Drlg. 2,375 ft.

FREESTONE COUNTY

Raley and Clark's No. 1 McLancaster (Pampier), 150 ft. from E of W line and center of N and S line, B. Avant Sur. ..... Moving in rig.

E. L. Smith's No. 1 Emily Jackson, center of N 150 acres of 300-ac. Emily Jackson tract ..... Drlg. 3,020 ft.

GREGG COUNTY

O. O. Alford et al's No. 1 L. M. Colburn, 208 ft. from N and 392 ft. from E of 39.7-ac. tract, Henry Hobson Sur. ..... Rig up.

Arkansas Drlg. Co.'s No. 1 S. Dodson, 150 ft. from E and 150 ft. from S of lease and survey, Allen Norris Sur. ..... Rig up.

Atlantic Prod. Co.'s No. 1 J. J. Fuller, 394 ft. from E and 342 ft. from S of 50-ac. tract and lease, Mowmery Irwin Sur. ..... Derrick.

Armstrong and Pitts' No. 1 Walker, 940 ft. from N and 1,970 ft. from E of survey, Martha Dillard Sur. ..... Derrick.

P. P. Ash et al's No. 1 A. H. Tubbs, 1,550 ft. from S and 4,120 ft. from E of survey, Dolores Sanches Sur. ..... Derrick.

Badgett and Ward's No. 1 Sample, 655 ft. S and 185 ft. W of SW cor. of A. Z. Jeffery 29.5 acres, W. P. Chisum Sur. ..... Shut down 1,200 ft. for drill pipe.

Barnsdall Oil Co.'s No. 1 Ladd Smith, 300 ft. from N and 150 ft. from W line of survey, J. S. Carrithers Sur. ..... Location.

Byrd-Frost, Inc.'s No. 1 J. R. Watson, center of 5-ac. lease, 1,500 ft. from E and 2,250 ft. from S lines of survey, J. S. Carrithers Sur. ..... Derrick.

M. T. Beeler's No. 1 Finley and Thomas, 150 ft. from N and 150 ft. from W of 10-ac. lease, C. H. Alexander Sur. ..... Building derrick.

Branson et al's No. 1 J. J. Fuller, 1,050 ft. from N and 170 ft. from W of survey, M. Alexander Sur. .... Derrick.

C. A. Bryan's No. 1 C. Vernon, 1,240 ft. from E and 151 ft. N of SW cor. of C. Vernon 58.75-ac. tract, W. W. Avery Sur. ..... Derrick.

Bell & Graddy's No. 1 M. George (or Daniels), 225 ft. S and 650 ft. W of 26-ac. tract, Mary Van Winkle Sur. ..... Drlg. 3,400 ft.

B. L. Brooklin's No. 1 J. M. Tuttle, 150 ft. from N and 205 ft. from E of 12½-ac. lease, William H. Castleberry Sur. ..... Set 80 ft. of 12½-in. csg.

Callahan, Thompson et al's No. 1 Fenn, 463 ft. from N and 150 ft. from E, 778 ft. from S of 44.5-ac. tract, David Ferguson Sur. ..... Drlg. 3,200 ft.

Cherokee-Chief Oil Co.'s No. 1 Todd, 230 ft. from N and 450 ft. from E of survey, Martha Dillard Sur. ..... Drlg. 2,670 ft.

Columbia Oil & &Gas Co.'s No. 1-A Harley, 650 ft. E and 300 ft. S of SE cor. of Laura Walker 45-ac. tract, William Robinson Sur. ..... Derrick.

Continental Oil Co.'s No. 1 J. J. Flewellen, 359 ft. from N and 949 ft. from E of 200-ac. lease, Marshall Mann Sur. ..... Location.

Cranfill & Reynolds' No. 1 A. D. Porter, 330 ft. from E and 330 ft. from S of 100-ac. tract, G. W. Hooper Sur. ..... Set 6⅝-in. csg. 3,663 ft.

Cranfill & Reynolds' No. 1 Mellie Fenn, 210 ft. from E and 500 ft. from S of 28-ac. tract, Haden Edwards Sur. ..... Drlg. 3,150 ft.

Tom David et al's No. 1 W. S. Pryor, 200 ft. from S and 200 ft. from W of 152-ac. tract, 2,600 ft. from E and 2,350 ft. from N of survey, Hamilton McNutt Sur. ..... Set 65 ft. of 10-in. csg.

Davis and Russell's No. 1 M. E. Anderson, 150 ft. from E and 75 ft. from S of 3-ac. lease in Kilgore Townsite, Mary Van Winkle Sur. ..... Shut down 3,558 ft.

Doss and Jones' No. 1 Ella Hegler, 400 ft. from N and 500 ft. from W of survey, J. S. Carrithers Sur. ..... Top sand 3,590 ft.; base sand 3,616 ft.; T. D. 3,618 ft.; connecting up.

Charles Davidson et al's No. 1 Paul Jones, 7,000 ft. from most southerly N line and 3,600 ft. from W, W. P. Chisum Sur. ..... Drlg. 3,580 ft.

Daisy Oil Co.'s No. 1 Mrs. H. B. Ware, 1,000 varas from N and 350 ft. from W of survey, Avery B. Johnson Sur. ..... Drlg. 3,250 ft.

Deep Rock Oil Co.'s No. 1 A. B. Guy, 340 ft. from E and 250 ft. from S of 50-ac. tract and lease, G. W. Hooper Sur. ..... Shut down 2,400 ft.

Duffey-Davis and McGrede's No. 1, 1,310 ft. from N and 3,160 ft. from E of survey, Martha Dillard Sur. ..... Derrick.

Sultan & Daniels et al's No. 1 B. Duncan, 420 ft. from N and 514 ft. from E of 28-ac. tract, G. F. Penn Sur. ..... Top sand 3,621 ft.; T. D. 3,636 ft.

Harry Elliott et al's No. 1 Woodley Jones, 2,125 ft. from N line and 3,720 ft. from E line of William H. Castleberry Sur. ..... Preparing to drill plug.

Harry Elliott's No. 1 McNeely, 150 ft. from N and 150 ft. from E of 7.73-ac. tract, W. P. Chisum Sur. .... Top sand 3,641 ft.; T. D. 3,649 ft.; fishing for liner.

Eastland Oil & Gas Co.'s No. 1 B. B. Sparks, 150 ft. from N and 150 ft. from W of E 50 acres of 100-ac. tract, Harvey R. Kirk Sur. ..... Derrick.

Empire Oil & Refining Co.'s No. 1 Otto Lockhart, 150 ft. from E and 150 ft. from S of 75-ac. lease, F. W. Warraner Sur. ..... Top Pecan Gap 2,470 ft.; drlg. 2,660 ft.

Dr. J. C. Falvey et al's No. 1 fee, 150 ft. from S and 150 ft. from W of 58-ac. tract, Marshall Mann Sur. ..... Rig up.

Gulf Production Co.'s No. 1 W. T. Goyne, 330 ft. from E and 330 ft. from S of lease, J. T. McDaniels Sur. ..... Top sand 3,587 ft.; set 6⅝-in. csg. 3,580 ft.

Greer's No. 1 L. M. Colburn, 150 ft. from E and 150 ft. from S of 45-ac. lease, 5,700 ft. from E and 850 ft. from N of survey, Henry Hathaway Sur. ..... Derrick.

Harper Petroleum Corp.'s No. 1 Woodley Jones, 2,000 ft. from N line and 3,900 ft. from E line of William H. Castleberry Sur. ..... Derrick.

Howard and Russell's No. 1 Stone, 150 ft. from N and 150 ft. from E of 100-ac. tract, Bailey Anderson Sur. ..... Derrick.

Houston Oil Co.'s No. 1 E. W. Clements, 200 ft. from E and 200 ft. from S of 18-ac. tract, George A. Thomason Sur. ..... Drlg. 2,120 ft.

Heep Oil Co.'s No. 1 S. B. Hall, 150 ft. from E and 150 ft. from S of lease and survey, David Dainwood Sur. ..... Set 6⅝-in. csg. 3,662 ft.; T. D. 3,672 ft.

Humble Oil & Refining Co.'s No. 1 A. L. Hughes, 108 ft. from N and 126 ft. from W of most northern NW cor. lease and tract, George Hampton Sur. ..... Fishing 2,869 ft.

Humble Oil & Refining Co.'s No. 1 H. M. Lawrence, 540 ft. from N and 319 ft. from W of 100-ac. tract, David Ferguson Sur. ..... Moving in material.

Humphrey et al's No. 1 A. Spear, 150 ft. from N and W lines of Spear tract, Mary Van Winkle Sur. ..... Rig up.

Hurburt and Brown's No. 1 L. L. Mackey, 990 ft. from E and 990 ft. from S of 269-ac. tract, 1,000 ft. from W and 990 ft. from S of survey, G. Y. Chambers Sur. ..... Drlg. 2,665 ft.

Iowa-Payne's No. 1 W. B. Walker, 375 ft. from S and 550 ft. from W of survey, E. R. Grisham Sur. ..... Top sand 3,693 ft.; T. D. 3,697 ft.

W. A. Jones' No. 1 G. Davis, 4,575 ft. from most easterly E line and 850 ft. from most northerly S line of lease, W. P. Chisum Sur. ..... Top sand 3,636 ft.; T. D. 3,649 ft.

K. B. Oil Co.'s No. 1 Dickson, 150 ft. from S and 150 ft. from W of 5-ac. lease, Mary Van Winkle Sur. ..... Derrick.

W. R. Jones et al's No. 1 Dovie C. Satterwhite, 200 ft. from S and 180 ft. from W of 13½-ac. tract, Mowry Irwin Sur. ..... Rig up.

H. P. Key's No. 1 King, 150 ft. out of SE cor. of 48-ac. tract, W. P. Chisum Sur. ..... Top sand 3,637 ft.; T. D. 3,648 ft.

Kimsey-Trimble's No. 1 Griffith Davis, 922 ft. E of N line of Griffith Davis 119.5-ac. tract from NW cor. of same and 145 ft. S at right angles, W. P. Chisum Sur. ..... Testing crooked hole.

Kingwood Oil Co.'s No. 1 Godfrey, 1,900 ft. from W line and 6,500 ft. from N line of survey, Mary Van Winkle Sur. ..... T. D. 3,566 ft.; top sand 3,556 ft.; drlg. plug.

Charles Love et al's No. 1 J. B. Doby, 150 ft. from E and 150 ft. from S of S 6 acres of W 42 acres of 170-ac. tract, W. H. Castleberry Sur. ..... Derrick.

Lion Oil & Refining Co.'s No. 1 C. D. Evans, 254 ft. from N and 254 ft. from S, 250 ft. from W of 16-ac. lease, Pleasant McAnally Sur. ..... Rig up.
J. K. Livingston Oil Co.'s No. 1 D. C. Johnson, 200 ft. from N and 150 ft. from E of survey, Martha Dillard Sur. ..... Derrick.
Magnolia Petroleum Co.'s No. 1 R. L. Salter, 150 ft. from S and 150 ft. from W of 25-ac. tract, H. Edwards Sur. ..... Drlg. 1,200 ft.
Magnolia Petroleum Co.'s No. 1 W. B. Goyne, 150 ft. from S and 150 ft. from W of 31.7-ac. tract, J. T. McDaniel Sur. ..... Set 6⅝-in. csg. 3,611 ft.
Meek and King's No. 1 Harmony Grove School, 270 ft. from S and 150 ft. from W of 3.7-ac. tract, Mowry Irwin Sur. ..... Oil sand 3,676-86 ft.
Mid-Kansas Oil & Gas Co.'s No. 2 Barton, 685 ft. S along W line and Hollingsworth Sur., from NE cor. W. P. Chisum Sur., thence 150 ft. at right angles, S. P. Hollingsworth Sur. ..... Coring 3,626 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 J. E. Choice, 2,100 ft. S and 500 ft. E of most easterly NW cor. of survey, W. P. Chisum Sur. ..... Top sand 3,694 ft.; T. D. 3,700 ft.
Overlees et al's No. 1 Mollie Fenn, 108 ft. from N and 126 ft. from W of survey, George Hampton Sur. .... Drlg. 1,200 ft.
George L. Pace et al's No. 1 W. D. Anderson, 150 ft. from N and 150 ft. from W of 13¾-ac. tract, G. W. Hooper Sur. ..... Drlg. 1,000 ft.
Prairie Oil & Gas Co.'s No. 1 Isley, 536 ft. from N and 150 ft. from E of 100-ac. tract and lease, George R. Rains Sur. ..... Drlg. 2,521 ft.; top Pecan Gap 2,500 ft.
Prince and Prince's No. 1 J. Worr, 630 ft. from W of NW cor. of George Hampton Sur., Haden Edwards Sur. ..... Derrick.
J. O. Perrin's No. 1 W. A. Burknight, 2,035 ft. from E and 350 ft. from S of survey, H. Edwards Sur. .... Drlg. 1,786 ft.
Petroleum Finance Corp.'s No. 1 Lacy, 300 ft. from E and 318 ft. from S of survey, Grisham Sur. .... Top Pecan Gap 2,485 ft.; drlg. 2,915 ft.
Roberts Oil Co.'s No. 1 W. B. Goyne, 150 ft. from S and 150 ft. from W of 14-ac. tract, Mary Van Winkle Sur. ..... Derrick.
Roeser and Pendleton's No. 1 Arthur Christian, 106 ft. from S and 308 ft. from W of 31-ac. lease, H. Hathaway Sur. ..... Set 6-in. csg. 3,570 ft.; oil sand 3,585 ft.
Ross et al's No. 1, located on Findley & Thomas 50-ac. tract, 150 ft. from S line of 6.66-ac. lease, C. H. Alexander Sur. ..... Derrick.
C. Rosenfield et al's No. 1 J. A. Knowles, 700 ft. from E, 1,250 ft. from N, William Lyles Sur. ..... Drlg. 3,550 ft.
Sabine Oil & Gas Co.'s No. 1 Harris, 3,500 ft. E and 3,500 ft. N of NE cor. of S. Lewis Sur., Mary Van Winkle Sur. ..... Waiting on csg. 1,000 ft.
Scheig et al's No. 1 Rube Smith, 1,100 ft. N and 200 ft. from W of tract and survey, Slaughter Sur. .... Derrick.
Sneed and Worley's No. 1 Lillie Willis, 300 ft. from E and 400 ft. from S of 13.57-ac. tract, G. W. Hooper Sur. ..... Derrick.
Seigler and McCall's No. 1 Missie Young, 330 ft. from N and 330 ft. from W of tract and survey, Carl Rhodes Sur. ..... Shut down 2,050 ft.
Smith et al's No. 1 J. B. Doby, 982 ft. from E and 150 ft. from S of 170-ac. tract, William H. Castleberry Sur. ..... Set 6⅝-in. csg. 3,490 ft.
E. L. Smith's No. 1 Cole, 893 varas S along E line of Samuel Brooks Sur. from NE cor. of same, thence 107 varas E at right angles, J. Meador Sur. ..... Moving in.
Sinclair Oil & Gas Co.'s No. 1 M. T. Cole, 2,640 ft. from N and 2,742.2 ft. from W line of survey, Samuel Brooks Sur. ..... Rig up standard tools; T. D. 3,681 ft.
Stanolind Oil & Gas Co.'s No. 1 J. E. Wilhite, 330 ft. from N and 150 ft. from W of tract and lease, G. W. Hooper Sur. ..... Shut down 1,957 ft.
Sun Oil Co.'s No. 2 G. W. Tate, 250 ft. from N and 360 ft. from W of 64-ac. tract, W. H. Castleberry Sur. ..... Spudding.
Sun Oil Co.'s No. 1 J. T. Loden, 150 ft. from S and 160 ft. from W of 100-ac. tract, Dolores Sanches Sur. ..... Spudding.
Sun Oil Co.'s No. 1 Pentecost, 150 ft. from S and 150 ft. from W of lease, Mary Scott Sur. ..... Spudding.
Sun Oil Co.'s No. 1 G. W. Tate, 250 ft. from N and 250 ft. from E of 64-ac. lease and tract, William H. Castleberry Sur. ..... T. D. 3,538 ft.
C. S. Thomas et al's No. 1 C. B. Everett, 300 ft. from N and 200 ft. from E of 30.25-ac. tract, John Ruddle Sur. ..... Drlg. 2,800 ft.
The Texas Company's No. 1 W. Baxter, 150 ft. from E and 150 ft. from S of lease, Mary Scott Sur. ..... Set 7-in. csg. 3,611 ft.
The Texas Company's No. 1 M. T. Cole, 3,400 ft. N and 1,325 ft. E of NE cor. of Samuel Brooks Sur., in the E. L. Walker Sur. ..... Top sand 3,531 ft.; T. D. 3,534 ft.
The Texas Company's No. 1 J. B. Bales, 330 ft. from S and 150 ft. from W of 30-ac. tract, William Carlton Sur. ..... Drlg. 2,316 ft.
L. C. Thorpe's No. 1 J. A. Butts, 4,850 ft. S of N and 5,300 ft. E of W line of survey, Mary Van Winkle Sur. ..... Location.
Turner et al's No. 1 Raden Edwards, 150 ft. from N and 150 ft. from W of tract and lease, Haden Edwards Sur. ..... Set 6⅝-in. csg. 3,563 ft.
Valentine Oil Co.'s No. 1 Goyne-Hughey, 6,100 ft. from S and 6,800 ft. from W of survey, Mary Van Winkle Sur. ..... Derrick.
Walker and Harrison's No. 1 E. L. Walker, 1,025 ft. from N and 850 ft. from W of survey, Martha Dillard Sur. ..... Top sand 3,580 ft.; T. D. 3,604 ft.
H. M. Wages et al's No. 1 Finley and Thomas, 165 ft. from E and 150 ft. from S of 10-ac. lease, Charles H. Alexander Sur. ..... Drlg. 3,180 ft.
Woodley Petroleum Co.'s No. 1 Dyers, 200 ft. from S and 200 ft. from W of 640-ac. lease, H. Hathaway Sur. ..... Derrick.
Yount Lee Oil Co.'s No. 1 Thrasher and Stuckey, 309 ft. from N line and 331 ft. from E line of 80-ac. lease, G. W. Hooper Sur. ..... Oil sand 3,521-30 ft.; running csg.
Ziegler Oil Co.'s No. 1 L. D. Campbell, 540 ft. from N and 219 ft. from E of 72½-ac. tract, David Ferguson Sur. ..... Derrick.

HENDERSON COUNTY

Westside Investment Co.'s No. 1 Thornhill, 450 varas from W and 400 varas from N line of survey, James Spivey heirs Sur. ..... Top Pecan Gap 2,707 ft.; drlg. 3,475 ft.

HOUSTON COUNTY

Ramsland and Ramsland's No. 1 Pennington, 750 varas W of E line and 500 varas from S line of survey on 186-ac. tract, Ramon La Garza Sur. ..... Derrick.
Phillips and Phillips' No. 1 Kennedy Bros., 485 varas out of SW cor. of 100-ac. tract, Jose M. Procella Sur. ..... Derrick.

LAMAR COUNTY

K. O. Bundy et al's No. 1 La Gatie, 200 ft. from N and 500 ft. from E of La Gatie tract, John V. Cherry Sur. ..... Rig up.
Doyle & Jondreau's No. 1 Guest, 350 ft. S and 2,046 ft. E of 100-ac. tract, L. Roberts Sur. ..... Rig up to bail.

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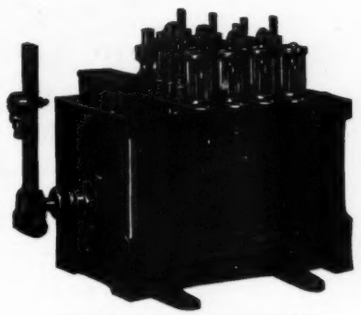

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Puritan's No. 1 George Parr, 2,000 ft. from W of Frisco Railway and 1,000 ft. from E line of R. Russell Sur. ..... Ready to spud.

LIMESTONE COUNTY

George McCamey's No. 1 B. K. Arnett, center of Blk. 13 in Casson Townsite ..... Shut down 1,729 ft.

MORRIS COUNTY

Dumas et al's No. 1 Tom Ball, 1,046 ft. from E and 248 ft. from S of 71-ac. tract, A. S. Young heirs Sur. ..... Derrick.

Harry Elliott et al's No. 1 Clayton B. Brown, 1,500 ft. S and 800 ft. E of NW cor. of George Dyer Sur. ..... Location.

Selby Oil & Gas Co.'s No. 1 Clayton Brown, located in Willis Coffey Sur. ..... Location.

NACOGDOCHES COUNTY

Benedum & Trees' No. 1 Conkwright, 150 ft. from N in center of E and W lines of A. H. Conkwright 100-ac. tract, J. A. Cherino Sur. ..... Drlg. 4,330 ft.

Bunte et al's No. 1 A. F. Boatman, 330 ft. from S and 150 ft. from W of 67-ac. tract, William A. Moore Sur. ..... Shut down 1,605 ft.

Burke et al's No. 1 F. R. Patterson, 6,515 varas from W and 315 varas from W line of Patterson 70-ac. tract, Joseph Las Santos Chay Sur. ..... Shut down 4,270 ft.

E. L. Chapman's No. 1 Tillford Hunt, 1,250 varas from S line and 1,468 varas from W line of survey, Stephen Strode Sur. ..... Drlg. 3,987 ft.

Churchill-Armstrong's No. 1 Max W. Hart, 2,640 ft. from N line and 2,640 ft. from S of N line of survey, George Pollett Sur. ..... Derrick.

Foreman and Weller's No. 1 Norris, 60 ft. NW of E line and 420 ft. S of road in 73.5-ac. tract, Hosses Y. Barbo Sur. ..... Shut down.

Fuhrman et al's No. 1 Robert Mattaner, NW cor. of 520-ac. tract, J. A. Cherino grant ..... Rig up.

Harwell and Scott's No. 1 R. I. Driver, 1,500 ft. from SE cor. of P. B. Ballard 125-ac. tract, 15 miles SE of Nacogdoches in Patricia De Torres Sur. ..... Coring 1,850 ft.

Joiner and Henson's No. 1 Andy Legg, 330 ft. from N and 330 ft. from W of tract, John Durst Sur. ..... Shut down 3,800 ft.

Morgan Oil Corp.'s No. 1 R. E. Burt, center of J. I. Reed 20-ac. tract, Jose Luy De La Bega Sur. ..... Drlg. 1,420 ft.

M. A. Vaughn's No. 1 Dixon Greer, in the M. G. Herrera Sur. ..... Derrick.

Paul Vitek et al's No. 1 Hayter estate, 1,000 ft. E of Laco Creek and 300 ft. S of Nacogdoches and Jacksonville Highway De Las Santos-Coy Sur. ..... Shut down 3,000 ft.

W. W. Wheeler's No. 1 I. D. Parmley, about 155 varas N of S line and about center of E line of survey, John Kirby Sur. ..... Drlg. 3,700 ft.

Sequia's No. 1 Vanover, 6,072 ft. from N and 6,636 ft. from E of Alford Oliver Sur., E. Boyd E 100-ac. tract ..... Digging pit.

Big Indian Oil Co.'s No. 1 J. N. Stewart, center of 79-ac. tract in the Jose Ignacio Ybarba Sur. ..... Location.

L. E. Trout and Dison's No. 1 E. A. Blount, 150 ft. out of NW cor. of survey and tract, E. D. Williams Sur. ..... Derrick.

RAINS COUNTY

Berry and Hale's No. 1 Ownsby, 150 ft. N and 1,100 ft. from E of most easterly SE cor. of survey, Alexander Sur. ..... Shut down 2,096 ft.

RED RIVER COUNTY

J. R. Sarland's No. 1 Bryan, 1,200 ft. SW of NE cor. of Bryan 130 acres, P. Vaughn Sur. ..... Derrick up.

Harris & Joiner's No. 1 E. Howison, 225 ft. S. 185 ft. W of 79-ac. tract, William Humphreys Sur. ..... Shut down 2,216 ft.

Pearsons et al's No. 1 J. R. Dellahunty, 500 ft. from N of Isaac Moore Sur. and 200 ft. E of E line of Robert Glass Sur. ..... Shut down 560 ft.

KILGORE AREA—RUSK COUNTY

Burton Drlg. Co.'s No. 3 E. B. S. Florey, 250 ft. out of NE cor. of Burton Florey 50-ac. lease, Peter Holmes Sur. ..... Location.

Calloway et al's No. 1 Harmon, 1,800 ft. from E and 6,525 ft. from N of survey, F. Cordova Sur. ..... Set 6-in. csg. 3,728 ft.

E. L. Chapman's No. 1 Oren Russell, 500 ft. W and 150 ft. S of most easterly NE cor. of Russell 30-ac. tract, J. English Sur. ..... Drlg. 3,726 ft.

Cox and Hamon's No. 3 D. M. Peterson, 150 ft. from N and W lines of 40-ac. tract, Isaac Ruddle Sur. ..... Moving in material.

Crider and Manley's No. 1 R. A. Metley, 600 ft. from S and 1,150 ft. from W of J. T. McDaniels Sur. ..... Derrick.

E. L. Chapman's No. 1 Jesse Minschew, 528 ft. from E and 1,800 ft. from S of survey, Henry B. Dance Sur. ..... Drlg. 2,305 ft.

Doctor Thompson's No. 1, 150 ft. from N and 230 ft. from W of lease and survey, Mary Cogswell Sur. ..... Derrick.

East Texas Refining Co.'s No. 1 Clara Webb, 150 ft. from N and 150 ft. from E of 15-ac. tract, Thomas Grace Sur. ..... Drlg. 3,520 ft.; Pecan Gap 2,600-2,990 ft.

Harry Elliott's No. 1 Carroll, 175 ft. from N and 200 ft. from E of 7-ac. tract, W. R. Cook Sur. ..... Location.

Gulf Production Co.'s No. 2 Jernigan, 330 ft. from E and 330 ft. from S of lease, W. W. Simms Sur. ..... Drlg. 3,559 ft.

Houston Production Co.'s No. 1 S. S. Laird, 200 ft. from N and 150 ft. from W of survey, J. McKim Sur. ..... Set 6⅝-in. csg. 3,570 ft.; T. D. 3,580 ft.

Humble Oil & Refining Co.'s No. 1 Barksdale, 150 ft. from N and 180 ft. from W of 76.5-ac. tract, S. P. Hollingsworth Sur. ..... Rig up.

Humble Oil & Refining Co.'s No. 1 May Day Caldwell, 2,110 ft. from N and 1,100 ft. from W of survey, T. J. Martin Sur. ..... Spudding.

Humble Oil & Refining Co.'s No. 1 First Guarantee Bank of Overton, 330 ft. from S and 330 ft. from W of 80-ac. tract and survey. ..... Drlg. 2,734 ft.; top Pecan Gap 2,680 ft.

Humble Oil & Refining Co.'s No. 1 DeGuerin, 450 ft. from N and 300 ft. from E of 121.8-ac. tract, T. J. Martin Sur. ..... Rig up.

Kirby Petroleum Co.'s No. 1 Jeff Reddie, 150 ft. from N and 150 ft. from W of 97.5-ac. tract, Thomas Grace Sur. ..... T. D. 3,740 ft.; testing.

Lewis & Selby Oil & Gas Co.'s No. 2 Peques, 150 ft. from S and 150 ft. from W of S 15-ac. tract, G. Cooper Sur. ..... Top sand 3,641 ft.; set csg.; T. D. 3,645 ft.

Lyle and Orr's No. 1 Powers, 2,200 ft. from N and 360 ft. from E of survey, J. Womack Sur. ..... Rig up.

Magnolia Petroleum Co.'s No. 1 Florey, 150 ft. from N and E lines of tract, Peter Holmes Sur. ..... T. D. 3,668 ft.; plugged back to 3,647 ft.

Ray Martin's No. 1 Russell, 190 ft. from N and 5,050 ft. from W of survey, T. J. Martin Sur. ..... Drlg. 2,880 ft.; top Pecan Gap 2,680 ft.

Moser's No. 1 Buntyn, 554 ft. from N and 325 ft. from E of survey, the most northeasterly cor. of survey, J. C. Snow Sur. ..... Spudded; shut down.

Navarro Oil Co.'s No. 1 Hindman, 250 ft. from S and 330 ft. from W of 11-ac. lease, W. W. Simms Sur. ..... Rig up.

J. J. O'Hearn's No. 1 Mary Moore McMillan, 2,110 ft. from N and 600 ft. from W of survey, T. J. Martin Sur. ..... Rig up.

Mrs. Joyce Richardson, 150 ft. from N and 150 ft. from W of 10-ac. tract, Robert W. Smith Sur. ..... Derrick.

Stanolind Oil & Gas Co.'s No. 1 O'Quinn, 3,050 ft. from W and 1,900 ft. from S of survey, George Berry Sur. ..... Drlg. 2,380 ft.

Stroube and Black's No. 1 W. M. Jernigan, 150 ft. from S and 150 ft. from W of lease, J. C. Snow Sur. ..... Shut down 2,980 ft.

Stanolind Oil & Gas Co.'s No. 1 Beal, 300 ft. from the S and W lines of the lease, W. P. Chisum Sur. ..... Derrick.

JOINER POOL—RUSK COUNTY

Alford et al's No. 1 W. L. Thrash, 1,103 ft. from N, 420 ft. from E of SE cor., B. Smith Sur. ..... Derrick.

Armstrong and Pitt's No. 1 Cooper, 2,150 ft. from W and 166 ft. from N of survey ..... Drlg. 2,986 ft.

Armstrong's No. 1 Alford, 151 ft. from S and 1,080 ft. from W of survey, T. J. Moore Sur. ..... Derrick.

Bellinger's No. 1 F. C. Warren, 400 ft. from S of most northerly S line and 900 ft. from E of most easterly E line of survey, W. G. Tuttle Sur. ..... Moving in rig.

Bullock's No. 1 Alford, 1,300 ft. from S and 150 ft. from W of survey, T. J. Moore Sur. ..... Derrick.

Bridwell's No. 1 Stone, 150 ft. from N and 150 ft. from W of lease and tract, M. J. Prue Sur. ..... Spudding.

Campbell Oil Co.'s No. 1 Compton, 600 ft. from N and W line of Simon Del Rio Sur., 1¼ miles NW of Minden ..... Derrick.

Cap Rock Oil Co.'s No. 1 Burton, 1,100 ft. E of W line and 529 ft. S of N line in SE cor. of 62½-ac. tract, Juan Jose Yarbo Sur. ..... Moving in rig.

Champline and Bass' No. 1 R. G. Mason, 3,900 ft. from E and 5,600 ft. from S of survey, J. B. De Cadena Sur. ..... Moving in rig.

F. L. Coogan's No. 1 Florence, 4,480 ft. from W and 4,050 ft. from S of survey, F. Cordova Sur. ..... Base Pecan Gap 3,048 ft.; top Austin 3,518 ft.; base Austin 3,640 ft.; sand 3,675-3,700 ft.; preparing to set csg.

Comb's No. 1 Fox, 3,150 ft. from S and 150 ft. from E of survey, D. Carmack Sur. ..... Shut down 1,250 ft.

Droppleman Development Co.'s No. 1 Cox, 384 ft. from N and 330 ft. from W of 20-ac. lease or survey, John Darley Sur. ..... Drlg. 1,810 ft.

Dan Dillon et al's No. 1 W. H. Frederick (Jake), 150 ft. from E. 150 ft. from S of 50-ac. tract, Juan Ximenes Sur. ..... Derrick.

Danciger's No. 1 Deason, 3,925 ft. from S and 650 ft. from W of survey, Juan Ximenes Sur. ..... Swabbed through tubing; dry.

East Texas Refining Co.'s No. 1 J. Bell, 1,250 ft. from E and 750 ft. from N of survey, S. P. Hollingsworth Sur. ..... Set 6-in. csg. 3,657 ft.; total depth.

Elzy and Tauteaham's No. 1 Deason, 1,300 ft. from W and 3,700 ft. from S of survey, Juan Ximenes Sur. ..... Shut down 2,310 ft.

Elzy Drlg. Co.'s No. 1 Frederick, 150 ft. from S and 603 ft. from W of Frederick 90-ac. tract, Juan Ximenes Sur. ..... Derrick.

Empire Oil & Refining Co.'s No. 1 Leverett, 150 ft. from S and 150 ft. from W of survey, J. C. Snow Sur. ..... Drlg. 3,064 ft.

Great Eastern Oil Co.'s No. 1 Mayfield-Alford, 250 ft. from S and 250 ft. from W of Alford tract, T. J. Moore Sur. ..... Set 6-in. csg. 3,655 ft.

Gulf Production Co.'s No. 1 L. P. Thrash, 5,300 ft. from E and 5,800 ft. from S of survey, F. Cordova Sur. ..... Drlg. 2,859 ft.

Humble Oil & Refining Co.'s No. 1 Shaw, 2,350 ft. from W and 3,800 ft. from S of survey, F. Cordova Sur. ..... Drlg. 1,240 ft.

Humble Oil & Refining Co.'s No. 1 Jones Fuller, 330 ft. from N and 330 ft. from W of 115.66-ac. tract, J. Ellington Sur. ..... Drlg. 1,280 ft.

Humble Oil & Refining Co.'s No. 1 W. A. Mullikin, 4,200 ft. from S and 6,700 ft. from E of survey, T. J. Martin Sur. ..... Drlg. 1,938 ft.

Humble Oil & Refining Co.'s No. 1 R. T. Cameron, 3,500 ft. from S and 6,700 ft. from E of survey ..... Drlg. 1,921 ft.

H. L. Hunt's No. 1 Smith-Wilson, 407 ft. from N and 429 ft. from W of lease, George Berry Sur. ..... Drlg. 3,045 ft.

H. L. Hunt's No. 1 A. Holt, 162 ft. from N and 237 ft. from E of A. Holt 60-ac. tract, S. P. Hollingsworth Sur. ..... Derrick.

Jackson-Wise and Sneden, 215 ft. from E and 175 ft. from S of 40-ac. lease, M. J. Prue Sur. ..... Drlg. 2,500 ft.

Albert Jones' No. 1 John Minnifee, 100 ft. from S and 1,000 ft. from W of survey on 70-ac. tract, T. J. Walling Sur. ..... Shut down 300 ft.

C. C. Julian's No. 1 Motley, 780 ft. from N and 1,673 ft. from W of survey, J. T. McDaniels Sur. ..... Set csg.; T. D. 191 ft.

Kimbrough et al's No. 1 Weatherby, 300 ft. from N and 300 ft. from E. Robert Martin Sur. ..... Drlg. 3,600 ft.

Lee and Young's No. 1 John Whelis, 150 ft. from N and 150 ft. from E of 15.3-ac. tract, F. Cordova Sur. ..... T. D. 3,741 ft.; waiting on csg.

Leonard Petroleum Co.'s No. 1 Sanger Bros., 390 ft. from N and 350 ft. from W of survey, J. P. Meredith Sur. ..... Drlg. 3,245 ft.

Madden et al's No. 1 Mose Mayfield, 960 ft. from S and 160 ft. from W line of 154-ac. lease, Daniel Clark Sur. ..... Rigging up pumping unit.

Marr et al's No. 1 Lowens, 1,200 ft. from most westerly E line and 3,150 ft. from S line of survey, W. G. Tuttle Sur. ..... Derrick.

Mass and Tucker's No. 1 Matthews, 3,244 ft. from N, 4,356 ft. from E, Dalines Cartimas Sur. ..... Shut down 3,250 ft.

H. C. McBride's No. 1 Sue Hale, 150 ft. from S and 150 ft. from W of Sue Hale 88-ac. tract, John Darley Sur. ..... Derrick.

McMurray's No. 1 Sam Stone, 1,700 ft. from N and 6,300 ft. from W of survey ..... Rig up.

Frank Melat's No. 1 Newton Orr, 300 ft. S of N line of 202½-ac. tract, William Tippett Sur. ..... Moving in rig.

Nat Saddler's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. ..... Shut down 1,670 ft.

Overton Refining Co.'s No. 1 Jones, 495 ft. from E and 229 ft. N of NE cor. of G. W. Eaton 74½-ac. tract, F. Cordova Sur. ..... Sand 3,748-58 ft.; base Pecan Gap 3,140 ft.; top Austin chalk 3,582 ft.

Pharis and Sample's No. 1 Deason, 1,558 ft. E and 155 ft. S of SE cor. of H. Brooks tract in M. J. Prue Sur. ..... Shut down 3,619 ft.

Phillips Petroleum Corp.'s No. 1 L. J. Pinkston, 590 ft. from N and 231 ft. W of lease, M. J. Prue Sur. ..... Sand 3,643-92 ft.; preparing to swab.

Pitts et al's No. 1 Freeman, 1,000 ft. N of S line and 1,000 ft. E of W line of 181-ac. tract, J. Watkins Sur. ..... Derrick.

Rowe et al's No. 1 Maxwell, 855 ft. from E and 237 ft. from S of B. F. Maxwell 59-ac. tract, R. H. Pinney Sur. ..... Derrick.

Stokes et al's No. 1 Mrs. M. M. Talley, 4,100 ft. from W and 1,050 ft. from N of survey ..... Moving in rig.

Sun Oil Co.'s No. 1 Horace Schuler, 3,850 ft. from W and 6,110 ft. from N of survey, J. B. De Cadena Sur. ..... Sand 3,641 ft.; connecting up.

Shell Petroleum Corp.'s No. 1 Able Holt, 150 ft. from N and 150 ft. from W of lease, Daniel Clark Sur. ..... Testing.

Sinclair Oil & Gas Co.'s No. 1 March, 330 ft. from E and 330 ft. from S of March 441-ac. tract, Leonard Williams Sur. ..... Top Pecan Gap 2,925 ft.; base Pecan Gap 3,234 ft.; drlg. 3,600 ft.

Stanley and Winn's No. 1 Young, 150 ft. from E and 6,000 ft. from S of survey, M. J. Prue Sur. ..... Set 6-in. csg. 3,641 ft.
Strube-Collins-Wheelock's No. 1 F. R. Russell, 425 ft. from E and 250 ft. from S of N 35 acres of 70-ac. Russell tract, T. J. Martin Sur. ..... Drlg. 2,745 ft.
Shaheen and Keeler's No. 1 H. L. Griffin, 550 ft. from W and 2,000 ft. from S of survey, Juan Ximenes Sur. ..... Derrick.
Sun Oil Co.'s No. 1 O. W. Knight, 1,350 ft. from S and 250 ft. from E of survey, D. Collins Sur. ..... Set 10-in. csg. 195 ft.
Suttles No. 2 Holland, 156 ft. from N and 152 ft. from W of Holland 41.7-ac. tract, M. J. Prue Sur. ..... Shut down 1,750 ft.
The Texas Company's No. 1 Pinkston, 3,100 ft. from N and 150 ft. from E of survey, J. B. De Cadena Sur. ..... Set 10-in. csg. 239 ft.
The Texas Company's No. 1 Turner, 242 ft. from S and 242 ft. from W of survey, T. H. Smith Sur. .... Derrick.
Tidal Oil Co.'s No. 1 Joel Shaw, 1,620 ft. from W and 1,900 ft. from S of survey, E. Collard Sur. ..... Drlg. 3,717 ft.
Tunstill et al's No. 1 J. Henshaw, 180 ft. from N and 180 ft. from E of 40-ac. tract and lease, Henry B. Dance Sur. ..... Drlg. 3,165 ft.; top Pecan Gap 2,741 ft.; base Pecan Gap 3,126 ft.

SMITH COUNTY

Arkansas Drilling Co.'s No. 1 Wallace, 150 ft. from N and 150 ft. from E of 200-ac. tract, W. W. Avery Sur. ..... Reaming 2,300 ft.
Bailey Gaunce et al's No. 1 S. S. Cook, 150 ft. from S and 150 ft. from W of S. S. Cook 20-ac. tract in 189-ac. tract, Juan Vargus Sur. ..... Shut down 2,560 ft.
Big Indian Oil Co.'s No. 1 Holland, 2,384 ft. from N and 1,446 ft. from E line of survey, Thomas Allen Sur. ..... Drlg. 3,770 ft.
J. H. Brogan, trustee's No. 1 T. O. Wright, 600 ft. from N and 300 ft. from E of survey, Juan Vargus Sur. ..... Drlg. 3,022 ft.; Top Pecan Gap 2,664 ft.
G. B. Bunte, trustee's No. 1 A. S. Jarvis, 150 ft. from S and 150 ft. from W of 267-ac. tract, Juan Vargus Sur. ..... Rig up.
Bunte et al's No. 1 Atkinson, 1,000 ft. from S line and 1,000 ft. from N line of 330-ac. tract, Calloway Dean Sur. ..... Rig up.
Roy L. Carter's No. 1 T. O. Wright, 1,445 ft. from N and 182 ft. from E of survey, Juan Vargus Sur. .... Drlg. 850 ft.
Cotton Belt Oil Co.'s No. 1 C. S. Jackson, 500 ft. from N and 500 ft. from W of 39.88-ac. tract, Henry Mickleborough Sur. ..... Derrick.
Deason Oil Co.'s No. 1 T. O. Wright, 1,440 ft. from N and 250 ft. from W of T. O. Wright 86-ac. tract, Juan Vargus Sur. ..... Location.
Deering & Son's No. 1 Wright, 1,815 ft. from N and 150 ft. from E of survey, Juan Vargus Sur. ..... Drlg. 2,250 ft.
Dumas' No. 1 Cooke, 1,558 ft. SE along center line of Highway No. 64 from point where S. S. Cooke 17.6-ac. tract W line intersects highway and 942 ft. at right angles to road, James Jordan Sur. ..... Drlg. 3,179 ft.; top Pecan Gap 2,745 ft.; base Fecan Gap 3,038 ft.
East Texas Refining Co.'s No. 1 Colored Methodist Church, James Jordan Sur. ..... Derrick.
Hancock and McCarthey's No. 1 J. C. Cross, 200 ft. from E of road and 200 ft. N of S line of survey on a 13-ac. tract, Burbridge Sur. ..... Derrick.
H. L. Hunt's No. 3 Fair, 150 ft. from W and 4,500 ft. from S of survey, Richard McAlnulty Sur. ..... Rig up.
Imperator Oil Co.'s No. 1 I. M. Green, 140 ft. from S and 165 ft. from E line of Green 86.5-ac. tract, NW of Overton and N and a little E of Big Indian No. 1 Holland ..... Shut down 1,750 ft.
Joiner et al's No. 1 W. W. Wright, 847.5 varas from E and 647 varas from S of NW Wright 225-ac. tract, Van Sickle Sur. ..... Shut down 4,210 ft.
Lawrence E. Ketch's No. 1 T. O. Wright, 700 ft. from E and 750 ft. from N of survey, Juan Vargus Sur. ..... Digging pits.
Magnolia Petroleum Co.'s No. 3 J. R. Wright, 812 ft. from N and 2,050 ft. from E of survey, Juan Vargus Sur. ..... Building derrick.
Magnolia Petroleum Co.'s No. 4 J. R. Wright, 1,458 ft. from N and 250 ft. from E of 87.9-ac. tract or lease, Juan Vargus Sur. ..... Location.
McCarthey and Hancock's No. 1 Nellie Taylor, 250 ft. out of SW cor. of 73-ac. Taylor tract, F. M. Taylor Sur. ..... Derrick.
McMillan's No. 1 Wright, 794 ft. from N and 171 ft. from W of T. C. Wright 86-ac. tract, Juan Vargus Sur. ..... Derrick.
Morrison's No. 1 I. Roy, 330 ft. N and E from SW cor. of 87-ac. tract in Henry Cools Sur. ..... Shut down 3,350 ft.
Owen and Sloan's No. 1-B Starnes, 5,018 ft. from W and 3,080 ft. from N of Samuel Epps Sur. ..... Shut down 4,204 ft.
M. M. Rowand et al's No. 1 Gibbons, 1,800 varas from W and 260 varas S of river (which is N line of survey), J. M. Garcia Sur. ..... Shut down 1,860 ft.
Ruffin and Williams' No. 1 Hamp Florence, 700 ft. from N and 200 ft. from E of 192.5-ac. tract, Barnes Clark Sur. ..... Coring 3,965 ft.
Sinclair Oil & Gas Co.'s No. 1 Mayfield, 2,194 ft. from N and 3,625 ft. from W of 376-ac. Mayfield lease, James Jordan Sur. ..... Derrick.
Sinclair Oil & Gas Co.'s No. 2-B Jarvis, 250 ft. from E and 300 ft. from S of Jarvis B lease, Juan Vargus Sur. ..... Building derrick.
Sun Oil Co.'s No. 1 J. A. Layne, 330 ft. from N and 330 ft. from E of 103.7-ac. tract or survey, Samuel Dexter Sur. ..... Location.

TITUS COUNTY

H. V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. ..... Moving in rig.

UPSHUR COUNTY

Brennan and Wood's No. 1 Robertson, center of Robertson 41-ac. tract, Ira Stephenson Sur. ..... Shut down 3,661 ft.
Joe Burnham's No. 1 Lena Beck, 4,000 ft. from S and 1,200 ft. from W of survey, H. W. Augustine Sur. .... Top Pecan Gap 2,585 ft.; base 2,895 ft.; drlg. 3,467 ft.
Cockrell et al's No. 1 C. A. Lee, 150 ft. from S and 150 ft. E of 26½-ac. tract, W. L. Palmer Sur. ..... Shut down.
Clark and Cowden's No. 1 A. O. Phillips, 250 ft. from S and 250 ft. from W of 110-ac. tract, David Ferguson Sur. ..... Set 114 ft. of 12½-in. csg.
Daniel and Hargrove's No. 1 Ann Callahan, 150 ft. from E and 150 ft. from S of 38-ac. tract, E. A. J. Evans Sur. ..... Set surface csg.
Decker et al's No. 1 T. A. Webb, 150 ft. from N and 150 ft. from W of 34.25-ac. tract and lease, G. H. Hooper Sur. ..... Oil sand 3,695-3,733 ft.; set 6⅝-in. csg. 3,685 ft.
Duman et al's No. 1 A. O. Phillips, 150 ft. from N and 150 ft. from E of W 25.2-ac. of 75-ac. tract, S. Harrell Sur. ..... Derrick.
A. H. Parver et al's No. 1 J. W. Free, 1,000 ft. N of SE cor. A. D. Porter tract and 463 ft. E at right angles, G. W. Hooper Sur. ..... Derrick.
Home Oil Co.'s No. 1 F. D. Futrell, 150 ft. out of SW cor. and 520 ft. from E and 400 ft. from S line of 7.6-ac. tract, A. Lumbrara Sur., south of Gilmer ..... Shut down 2,490 ft.
Humble Oil & Refining Co.'s No. 1 A. O. Phillips, 258 ft. from N and 195 ft. from W of 25-ac. tract, S. Harrell Sur. ..... Drlg. 2,012 ft.
W. H. Peckham et al's No. 1 J. W. Free, 330 ft. from N and 330 ft. from W of 28-ac. tract, G. W. Hooper Sur. ..... Drlg. 3,671 ft.; top Pecan Gap 2,446 ft.; base Pecan Gap 3,030 ft.; shut down 3,665-77 ft.
Magnolia Petroleum Co.'s No. 2 Howard Hampton, 215 ft. from NW and 215 ft. from SW of 169-ac. lease, David Ferguson Sur. ..... Drlg. 2,006 ft.
McMahon and McCullough's No. 1 E. H. Hamilton, 200 ft. from E and 150 ft. from S of 88-ac. tract, M. Chandler Sur. ..... Derrick.
McPhail and Smith's No. 1 Kay, 660 ft. from S and 660 ft. from W line of J. Elliott Sur., 1½ miles S of Big Sandy ..... Drlg. 3,165 ft.
G. P. Mitcham's No. 1 J. B. Bland, 165 ft. from E and 650 ft. from S of 62½-ac. tract and 15-ac. lease, G. W. Hooper Sur. ..... Location.
Mudge Oil Co.'s No. 1 J. W. Free, 150 ft. from E and 150 ft. from S of tract, David Ferguson Sur. ..... Oil sand 3,704-05 ft.; set csg. 3,704 ft.
W. H. Peckham et al's No. 1 J. L. Bland, center of W half of S 30 acres of 62½-ac. tract, G. W. Hooper Sur. ..... Derrick.
Joyce Richardson's No. 1 O'Byrne, 150 ft. out of SE cor. of 76-ac. tract and in William Bratton Sur. .... Location.
Sorrels & Duffey's No. 1 J. W. Wooden, 200 ft. from E and 200 ft. S of survey, Isham Williams Sur. ..... Shut down 100 ft.
A. A. Trammell's No. 1 O. M. Victory, 150 ft. from E and 150 ft. from S of SW 100 acres of survey, E. A. J. Evans Sur. ..... Shut down 3,277 ft.
Union Drilling Co. et al's No. 1 W. M. Phillips, 300 ft. from E and 300 ft. from S of 67½-ac. tract and lease, H. Edwards Sur. ..... Drlg. 1,500 ft.
R. M. Weaver, Jr. et al's No. 1 L. J. Everett, 330 ft. from E and 330 ft. from S of 173-ac. tract, W. Goodwin Sur. ..... Drlg. 3,205 ft.; top Pecan Gap 2,465 ft.

VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 225-ac. tract, 3½ miles S of Canton, M. J. Cadena Sur. ..... Spudded and shut down.
Hart Petroleum Corp.'s No. 1 M. L. Cox, 1,785 ft. N of S line and 524 ft. E of W line of Cox 300-ac. tract in Nugent Headright Sur. ..... Drlg. 1,715 ft.
H. Helms et al's No. 1 Bogue, 647 ft. W and 155 ft. S of SE cor. of J. M. Brown 70-ac. in Marshall University Sur., SE of Van ..... Shut down 3,098 ft.
Joiner et al's No. 1 J. S. Meeks, 330 ft. out of the NE cor. of the 330-ac. tract, A. Ducher Sur. ..... Shut down 2,530 ft.; top Pecan Gap 2,380 ft.
Humble Oil & Refining Co.'s No. 1 L. A. Dowdle, 1,027 ft. N of S line and 150 ft. E of W line, William Daniel Sur. ..... Temp. abnd. 2,987 ft.
Kelly Oil & Gas Co.'s No. 1 Lemsford, center of Lemsford tract, John Conner Sur. ..... Shut down 2,300 ft.
Neil McMehory's No. 1 R. V. Murphy, 150 ft. from N and 150 ft. W of survey, H. Bailey Sur. ..... Shut down 2,450 ft.
W. P. Palmer et al's No. 2 W. P. Forster, 600 ft. from N and 450 ft. from E of SW cor. of Forster 151-ac. tract in the F. Montgomery Sur. ..... Shut down 3,000 ft.
W. A. Phillips et al's No. 1 Morris, 1,050 ft. S of N line and 350 ft. W of E line of center west of Morris 160-ac. tract in the C. L. Morris Headright Sur. .... Waiting on drill stem.
Pure Oil Co.'s No. 1 J. C. Stewart, 150 ft. N of S line and 150 ft. W of E line of 90-ac. tract, A. McPhail Sur. ..... Location.
Pure Oil Co.'s No. 1, 173 ft. S of N line and 150 ft. E of W line of 103-ac. tract, John Walling Sur. .... Location.
Pure Oil Co.'s No. 2 A. D. Clark, 70 ft. N of S line and 120 ft. E of W line of lease, J. Walling Sur. ..... Location.
Pure Oil Co.'s No. 7 F. B. Smith, 250 ft. E of W line and 723 ft. S of N line of lease in John W. Walling Sur. ..... Drlg. 2,370 ft.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. .... Shut down 2,530 ft.

WOOD COUNTY

Loche & Clark's No. 1 A. C. Pick, 165 ft. S of NE cor. G. C. Reeves 25-ac. tract, Daniel Fuller Sur. .... Shut down 2,008 ft.
Deep Rock Oil Co.'s No. 1 Maud Smith, center of Maud Smith S 40-ac. tract, L. Johnson Sur. ..... Fishing 3,887 ft.
Main Holding Co. and Thelma Wells' No. 1 Stewart, 1,338 ft. from NE and 2,898 ft. from E line of survey, E. Rehorse Sur. ..... Moving in rig.
Vitek Oil Co.'s No. 1 Rosa Bogel, 250 ft. from N and 500 ft. from W of survey, Sarah English Sur. .... Spudded; shut down.
M. O. Walmer Oil Co.'s No. 1 J. A. Ivey, center of 57-ac. tract, 2 miles NE of Mineola, A. Hamilton Sur. .. Spudding.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 42)

ECTOR COUNTY

H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW Sec. 16, Blk 46, Twp. 3s, G.M. M.Br.&A. Sur. ..... Shut down 3,275 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft from S and E lines Sur. 254, S.F. No. 7,247 ..... Drlg. 709 ft.

FISHER COUNTY

Stanolind Oil & Gas Co.'s No. 2 Steele, 1,200 ft. E and 330 ft. N of SW cor. Sec. 210, B.B.B.&C. Sur ..... Top lime 1,600 ft.; show oil 2,924-34 ft.; coring 3,180 ft.
The Texas Company's No. 1 Jean, 350 ft. from E and 400 ft. S of Sec. 201, Blk. 1, B.B.B.&C. Sur. ..... Drlg. 2,660 ft.

GAINES COUNTY

Landreth Prod. Co.'s No. 1 Alley, 660 ft. from N and W of Sec. 2, Blk. A-30, P.S.L. Sur. ..... Rainbow show oil 2,965-75 and 3,030-45 ft.; drlg. 3,382 ft.
Texas Consolidated Oil Co. et al's No. 1 Jones, 2,310 ft. from NE Sec. 4, Blk. A-8, P.S.L. Sur. ..... Drlg. 3,938 ft.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 4, H.&G.N. Sur. ..... Spudded and shut down.
Perry & Posey's No. 1 Justice, 1,980 ft. from S and 1,680 ft. from E of Sec. 25, Blk. 6, H.&G.N. Sur. (3,500-ft. cable tool test) ..... Total depth 3,085 ft.; pulling 6⅝-in. casing to straightream

HOWARD COUNTY

Continental Oil Co.'s No. 1 Brindley, 660 ft. from S and E of Sec. 18, Blk. 33, Twp. 1s, T.&P. Sur. ..... Total depth 3,590 ft.; plugging back to shoot.
Green O. & R. Co.'s No. 1 Denman, 990 ft. from S and 2,310 ft. from W Sec. 14, Blk. 20, Twp. 1s, T.&P. Sur.. Spudded and shut down.

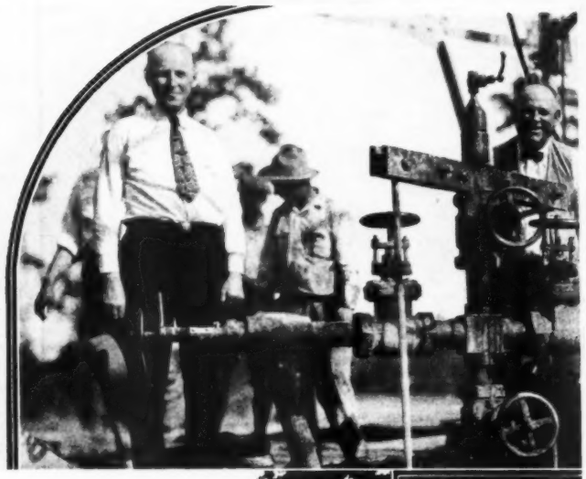
HUDSPETH COUNTY

Henshaw's No. 1 Love, C NE Sec. 9, Blk. 67½, P.S.L. Sur. ..... Shut down 400 ft.
Patillo & Welch's No. 1 Briggs, 300 ft. from S and W Sec. 13, Blk. 73, Twp. 7, T.&P. Sur. ..... Shut down 690 ft.
Theison's No. 1 University, 3,050 ft. from S and 2,225 ft. from E of Sec. 17, Blk. E ..... Spudded 35 ft. and shut down.

IRION COUNTY

Davis et al's No. 1 Suggs, 1,560 ft. from S and 925 ft. from W. Sec. 3,081, Blk. 28, H.&T.C. Sur. ..... Drlg. 1,371 ft.
Stanolind Oil & Gas Co.'s No. 1 Williams, 1,320 ft. from S and E of Sec. 1,196, T.T.R.R. Sur. ..... 300 ft. oil in hole from 4,155-63 ft.; fishing bailer 5,950 ft.

In Kilgore as in every important field...



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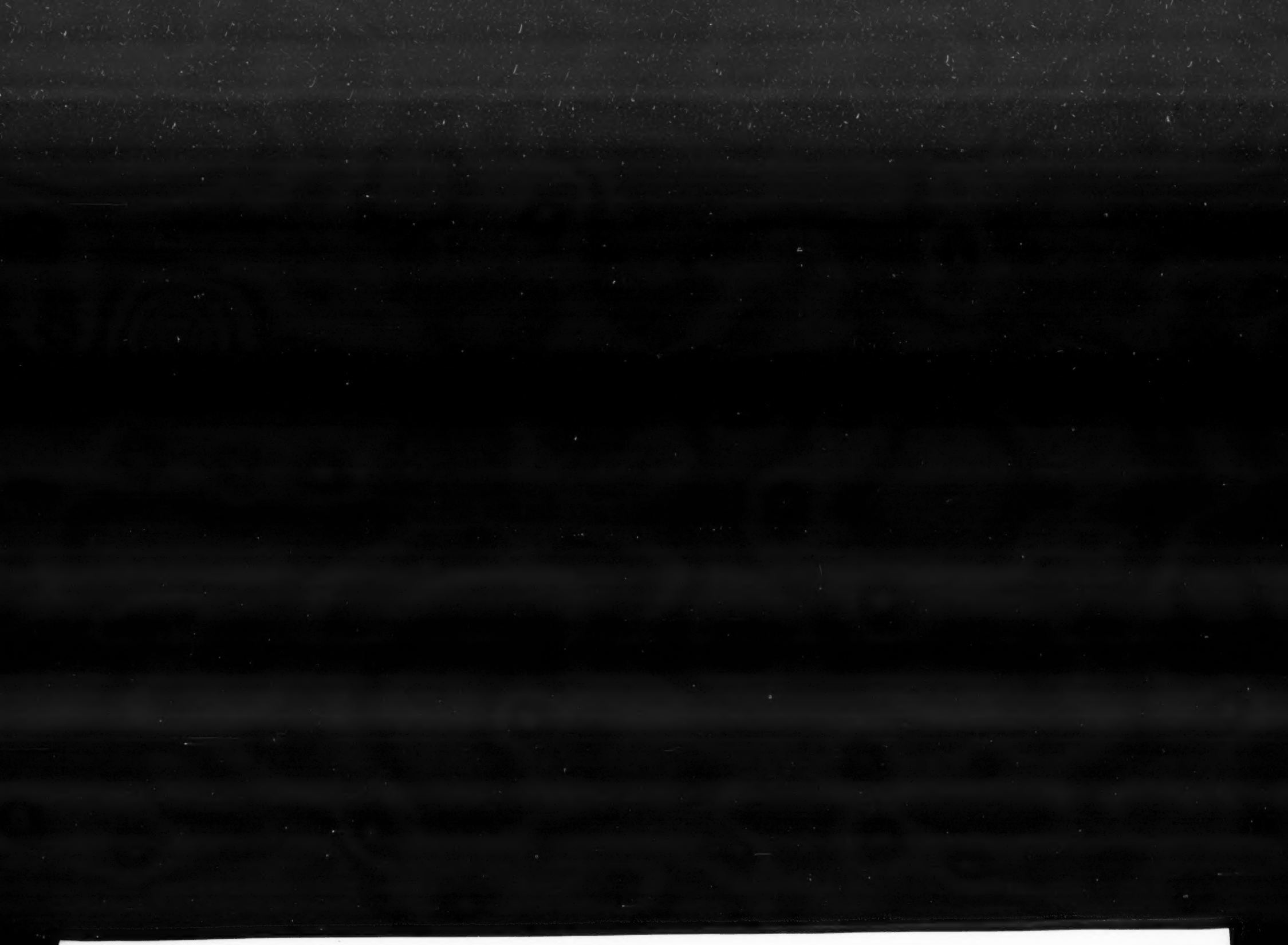

June

Fox's No. 1 Horney, 1,530 ft. from N and 1,535 ft. from W Sec. 2, Blk. 5, H.&T.C. Sur. ..... Shut down 1,593 ft.
Straughn & Texannati Oil Co.'s No. 1 Tankersley, 150 ft. from S and 750 ft. from W of Sec. 4, Gonzales County School Land ..... Plugged back to 1,233 ft.; total depth 1,506 ft.

JONES COUNTY

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-acre tract in G. Martinez Sur. ..... Shut down 1,005 ft.
Barney & Duffy's No. 2 King, 3,700 ft. from N and 200 ft. from E, Subd. No. 18, M. Bueno Sur. ..... Material on ground.
Union Oil Co.'s No. 2 King, 4,100 ft. from N and 200 ft. from E, Subd. 18, Bueno Sur. ..... Drlg. 978 ft.
Andy Urban's No. 1 Riddle, 300 ft. from S and 150 ft. from E, Subd. 2, A. W. Hill Sur. ..... Top pay 1,700 ft.; total depth 1,910 ft.; plugged back to 1,750 ft. and shut in.
Young & McNeill's No. 1 L. R. Cade, 150 ft. from N and 450 ft. E of NW cor. of J. A. Williams 200-acre tract in Sec. 17, but in Sec. 12, Blk. 19, T.&P. Sur. .. .. Shut down 2,590 ft.

LOVING COUNTY

Adams et al's No. 1 Wichmann, 330 ft. from NE and 2,310 ft. from SE of Sec. 84, Blk. 1, W.&N.W. Sur.... Location.
Ervin & Mahres' No. 1 Thrope, 2,310 ft. from E and 330 ft. from S Sec. 46, Blk. 53, T.&P. Sur. ..... Shut down 810 ft.
Ervin & Mahres' No. 1 Meyer, 990 ft. NE and 330 ft. SE of Sec. 3, Blk. 2, W.&N.W. Sur. ..... Location.
Falbe & Evans' No. 1 Dean, 330 ft. from NE and 990 ft. from NW Sec. 79, Blk. 33, H.&T.C. Sur. ..... Shut down 1,465 ft.
Hoffman et al's No. 2 Ramsey et al, 2,310 ft. from NE and 330 ft. from SE Sec. 83 ..... Shut down 4,034 ft.
Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... Shut down 4,050 ft.
Martin et al's No. 2 Ramsey, 990 ft. from SE and 2,310 ft. from SW Sec. 83, Blk. 1, W.&N.W. Sur. ..... Location.
Richmond Drlg. Co.'s No. 1 Russell, 990 ft. from NE and 330 ft. from NW Sec. 80, Blk. 31, W.&N.W. Sur... Shut down 4,050 ft. after cementing casing.
Rush et al's No. 1 Wheat, 330 ft. from NW and SW Sec. 77, Blk. 1, W.&N.W. Sur. ..... Cellar.
Slagel Drlg. Co.'s No. 1 Cartwright et al, 2,310 ft. from S and 990 ft. from W Sec. 1, Blk. 57, Twp. 1, T.&P. Sur. ..... Total depth 3,182 ft.; top pay 3,175-80 ft.; plugging back again.
W. A. Suddreth et al's No. 1 Capitola Pool, 2,970 ft. from NE and 990 ft. from NW Sec. 73, Blk. 33, H.&T.C. Sur. ..... Elev. 2,644 ft.; drlg. 383 ft.
Tennant et al's No. 1 Martin, 990 ft. from NW and SW Sec. 66, Blk. 1, W.&N.W. Sur. ..... Drlg. 1,325 ft.
California Co.'s No. 3 Allen, 2,191 ft. from NW and 2,182 ft. from SW Sec. 90, Blk. 1, W.&N.W. Sur. ..... Shut down 4,130 ft.; running 6⅝-in. casing.
California Co.'s No. 4 Allen, 3,121 ft. from NW and 3,113 ft. from SW Sec. 90, Blk. 1 ..... Top salt 855 ft.; total depth 4,150 ft.; set casing.

MENARD COUNTY

Priest's No. 1 Sorrell, 1,000 ft. from E and 200 ft. from S cor. Sec. 132, E.L.R.R. Sur. ..... Shut down 2,860 ft.

PECOS COUNTY

Dittman's No. 1 Sanford, 330 ft. from NW and 1,650 ft. from NE of Sec. 55, Blk. 10, H.&G.N. Sur. ..... Location.
Honolulu Oil Co.'s No. 1 Webb, 3,140 ft. from N and 1,000 ft. from W of Sec. 105, Blk. OW, G.S.&S.F. Sur... Total depth 1,713 ft.; crooked hole.
J. R. Miller et al's No. 1 Bennett, 359 ft. W of CWL Sec. 1, Blk. 119, G.C.&S.F. Sur. ..... Shut down 2,283 ft. for casing.
Penn Oil Co. et al's No. 1 Alvis, 2,358 ft. from S and 1,327 ft. from W Sec. 155, Blk. 3, T.&P. Sur. ..... Show oil 2,601-02 ft.; total depth 3,921 ft.; to plug.
Perren Oil Co.'s No. 2 Eaton, S of E Sec. 27, Blk. 3, H.&T.C. Sur. ..... Fishing 1,765 ft.
Pure Oil Co.'s No. 1 Harrison, 2,310 ft. from N and 330 ft. from W of Sec. 203, Blk. 3, T.&P. Sur. ..... Shut down 5,000 ft.
Whitaker et al's No. 1 Mary Devlin, 150 ft. from N and 150 ft. from E Sec. 69, F. Hernandez Sur. ..... Shut down 430 ft.

REEVES COUNTY

R. T. Hansford's No. 1 Williams, 150 ft. from S and W Sec. 17, Blk. 6, H.&G.N. Sur. ..... Shut down 580 ft.
Humble Oil & Ref. Co.'s No. 1 Bolmorhea Livestock Co., 1,320 ft. from N and 1,320 ft. from W Sec. 33, Blk. 5, H.&G.N. Sur. ..... Drlg. 1,237 ft.
Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur... Shut down 4,525 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 419 ..... Shut down 2,335 ft.; water shut-off.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... Fishing pipe 2,522 ft.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,362 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... Top pay 4,000 ft.; shut down 4,006 ft. with 1,200 ft. fluid in hole.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... Shut down 5,053 ft.

SCURRY COUNTY

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 5,100 ft.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W Sec. 68, Blk. 3, H.&G.N. Sur. ..... Spudded and shut down.
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... Shut down 3,375 ft.
Simon & Brock et al's No. 1 Cruse, 2,310 ft. from S and E Sec. 119, Blk. 97, H.&T.C. Sur. ..... Drlg. 1,035 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.-K.-T. Sur. ..... Shut down 2,669 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,150 ft.
Miller Bros.' No. 1 Allison & Burke, C NW cor. Sec. 10, Blk. 176, T.&P. Sur. ..... Shut down 120 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S Sec. 26, Blk. 161, G.C.&S.F. Sur... Shut down 6,120 ft.
Jones et al's No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... Drlg. 1,920 ft.; top lime 1,690 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Norsworthy, 2,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... Shut down 760 ft.; show oil and gas 725 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 150, Dist. No. 11, S.P. Sur. .... Shut down 1,994 ft.
Pratt & Hancock's No. 2 Lewis, 100 ft. N and 320 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... Shut down 200 ft.

UPTON COUNTY

Mintex Oil Co.'s No. 1 Lane, 2,310 ft. from N and 1,650 ft. from W Sec. 36, Blk. 1, M.-K.-T. Sur. ..... Shut down 2,134 ft.
Rankin et al's No. 1 Cordova Union Land, 660 ft. from N and E Sec. 6, G.C.&S.F. Sur., 1¼ miles S of Rankin ..... Rigging up.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 10, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 5,429 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Shut down 6,730 ft.

WARD COUNTY

Bradford et al's No. 1 Carson, 990 ft. from NE and SE Sec. 26, Blk. 5, H.&T.C. Sur. ..... Spraying 10 bbls. oil per day from 2,142 ft.; shut down 2,170 ft.
Bradford & Abell's No. 2 Boogher, 1,160 ft. from NW and 300 ft. from SW, Sec. 11, Blk. 5, H.&T.C. Sur.... Shut down 450 ft.
Bradford's No. 1 York, 330 ft. from NE and SE of Sec. 10, Blk. 34, H.&T.C. Sur. ..... Drlg. 375 ft.
Beckley et al's No. 1 Johnson, 4,140 ft. from NE and 990 ft. from SE Sec. 8, Blk. 32, H.&T.C. Sur. ..... Show gas 2,180 ft.; increase 2,197 ft.; shut down 2,215 ft.
Buster Black's No. 1 Hall & Roberts, 990 ft. from NE and 1,650 ft. from NW, Sec. 17, Blk. 32, H.&T.C. Sur... Drlg. 1,641 ft.; top salt 1,535 ft.
Central Oil & Gas Co.'s No. 1 Barrow, 330 ft. from NW and 1,263 ft. from SW, Sec. 55, J. W. Jackson Sur. ..... Spudded and shut down.
Gibson & Johnson's No. 1 Johnson, 4,140 ft. from SE and 990 ft. from NE, Sec. 10, Blk. 32, H.&T.C. Sur.... Shut down 2,370 ft.
Gulf Prod. Co.'s No. 8 Hutchins, 2,310 ft. from S and 990 ft. from W of Sec. 3, Blk. F, G.M.M.B.&A. Sur.... Drlg. 395 ft.
Hankinson et al's No. 1 Emery, 3,090 ft. from SE and 510 ft. from SW, Sec. 26, Blk. 5, H.&T.C. Sur. ..... Top salt 840 ft.; drlg. 1,010 ft.
Moran & Miles' No. 1 Boogher, 3,603 ft. from NE and 1,303 ft. from SE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Location.
O'Quinn et al's No. 1 Cummins, 4,300 ft. from NE and 330 ft. from SE of Sec. 11, Blk. 5, H.&T.C. Sur. .... Drlg. 178 ft.
Pat Moran's No. 1 Sweatt, 1,470 ft. from SW and 150 ft. from NW Sec. 12, Blk. 5, H.&T.C. Sur. ..... Top salt 794 ft.; drlg. 1,115 ft.
Rector Oil Co.'s No. 1 Smith, 1,320 ft. from N and E, Sec. 22, Blk. A, G.M.M.B.&A. Sur. ..... Drlg. 1,553 ft.; top salt 940 ft.
Shipley et al's No. 5 Hayzlett, 2,490 ft. from SE and 1,980 ft. from SW Sec. 17, Blk. 5, H.&T.C. Sur. ..... Shut down 2,520 ft.; 1,500 ft. oil in hole; waiting on tubing.
Simms Oil Co.'s No. 1 Himmel, 330 ft. from NE and 2,310 ft. from SE Sec. 30, Blk. B-29, P.S.L. Sur. ..... Top pay 2,246 ft. and 2,325 ft.; drlg. 2,522 ft.
Sturm's No. 1 Jones, 330 ft. from SW and SE of Sec. 25, Blk. B-29, P.S.L. Sur. ..... Elev. 2,519 ft.; shut down 2,475 ft.; flowing 120 bbls. oil daily.
Shipley et al's No. 1 Monroe, 330 ft. SE SW, Sec. 3, Blk. 1 ..... Drlg. by tools 4,355 ft.

WINKLER COUNTY

White et al's No. 1 Owenby, 305 ft. from NE and 1,185 ft. from SE, Sec. 7, Blk. 32, H.&T.C. Sur. ..... Top pay 2,171 ft.; cleaning out 2,180 ft.; flowing 32 bbls. oil daily.
Liner Drlg. Co.'s No. 1 Campbell, 350 ft. from N and E cor. Sec. 2, Blk. B-5 ..... Shut down 4,640 ft.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 42)

Interstate Prod. Co.'s No. 1 Frazier, C of W 100 ac., of SW, Sec. 177, Blk. 3 ..... Drlg. 2,691 ft; top gas 2,480 ft; 47,000,000 ft. gas 2,680 ft.
Magnolia Pet. Co.'s No. 1 Heaston, NE cor. S½ NE, Sec. 164, Blk. 3, I.&G.N. Sur. ..... Rig on ground.
Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur. ..... S.D. 2,619 ft.
Operators Royalty & Prod. Co.'s No. 2 Vanniman, 330 ft. S and W, E½ NE, Sec. 175, Blk. 3, I.&G.N. Sur. . Drlg. 3,142 ft.
Pulse-Shell Pet. Corp.'s No. 1 Simpson, SE NE, Sec. 140, Blk. 3, I.&G.N. Sur. ..... Rig.
Steckoll & Reiger's No. 1 Davidson, 660 ft. N and W, Sec. 64, Blk. B-2, H.&G.N. Sur. ..... Standardizing 2,420 ft.
Steckoll & Reiger's No. 1 Short, 330 ft. S and W, Sec. 17, B. E. Chaney Sur. ..... Drlg. 762 ft.
Sullivan & Ochiltree's No. 1-A Morse, 330 ft. S and W, N½ NE, Sec. 15, Blk. A-9, H.&G.N. Sur. ..... S.D. 2,636 ft.
Tarber's No. 1 Saunders, 330 ft. N and W, Sec. 3, Blk. 1, B.S.&F. Sur. ..... Location.
Warner Oil Co.'s No. 1 Morse, 330 ft. S and W, N½ NW, Sec. 68, Blk. 25, H.&G.N. Sur. ..... Cellar.

HUTCHINSON COUNTY

Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 34, Blk. Y, A.&B. Sur. ..... Rigging up.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur. .. S.D. 450 ft.
Huber Prod. Co.'s No. 1 Johnson Bros. (Premier), 330 ft. N and E of W 60 ac., N 80 ac., NW, Sec. 3, Blk. Y, A.&B. Sur. ..... Big gas 2,330 ft. and 2,395 ft; drlg. 3,025 ft.
Liner et al's No. 1 Johnson Bros., 990 ft. S, 330 ft. E, W½ SE, Sec. 29, Blk. Y, A.&B. Sur. ..... Spudded and S.D.
Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE, Sec. 30, Blk. Y, A.&B. Sur. ..... S.D. 3,115 ft.
Timms-Deatch's No. 4 Moore, 330 ft. N and W, Sec. 124, Blk. 4, I.&G.N. Sur. ..... Rig.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 5,003 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft; S.D. 4,-167 ft.

MOORE COUNTY

Cloud & Dana's No. 1 Jones, 330 ft. N and E, SW, Sec. 169, Blk. 3-T, T.&N.O. Sur. ..... Estimated 74,000,000 ft. gas; T.D. 3,305 ft; killed gas to run csg.
Dana O. & G. Co.'s No. 1 R. Utey, 330 ft. S and W, NE, Sec. 135, Blk. 3, T.&N.O. Sur. ..... T.D. 3,526 ft; making 5 bbls. wtr. and 1 bbl. b.s. per day.
Interstate's No. 1 Nield, C NE, Sec. 18, Blk. 44, H.&T. C. Sur. ..... Location.
Magnolia Pet. Co.'s No. 1 Jones, 330 ft. N, 330 ft. E, Sec. 170, Blk. 3-T, T.&N.O. Sur. ..... Drlg. 1,128 ft.
Sunray Oil Co.'s No. 1 Rupert, 660 ft. N, 330 ft. E, NW, Sec. 191, Blk. 3-T, T.&N.O. Sur. ..... Cellar.
Plains Holding Co.'s No. 2 Bivins, 1,115 ft. S, 627 ft. E, Sec. 93, Blk. 46, H.&T.C. Sur. ..... 3,000,000 ft. gas 2,135 ft; T.D. 2,-550 ft; making 46,500,000 ft. gas.
Sunray Oil Co.'s No. 2 Jones, 330 ft. N and W, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Texas Interstate P. L. Co.'s No. 1-23 Thompson, C N½ NE, Sec. 23, Blk. 44, H.&T.C. Sur. ..... Location.
Texas Interstate P. L. Co.'s No. 1-33 Sneed, C SW, Sec. 33, Blk. 6-T, T.&N.O. Sur. ..... Rig.
Texas Interstate P. L. Co.'s No. 1-37 Sneed, C NW, Sec. 37, Blk. 6-T, T.&N.O. Sur. ..... Location.
Texas Interstate P. L. Co.'s No. 2-55, C SE, Sec. 55, Blk. 6-T, T.&N.O. Sur. ..... Drlg. 1,510 ft.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 16, Blk. G, B.&B. Sur. ..... S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... S.D. 400 ft.
Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. S, G.C.&S.F. Sur. ..... S.D. 800 ft.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. ..... Drlg. 515 ft.
Travis et al's No. 1 Cunningham, 330 ft. S and W, Sec. 74, Blk. M-2, H.&G.N. Sur. ..... S.D. 2,650 ft.

WHEELER COUNTY

Clarity et al's No. 1 Porter, NW cor. SE, Sec. 2, Blk. A-9, H.&G.N. Sur. ..... Rigging up.

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SOUTHWEST TEXAS PROVEN AREAS

(Continued from Page 32)

CHITTIM POOL—MAVERICK COUNTY

Texas Gas Utilities' No. 8 Chittim, 24 ft. S of No. 7 Chittim ..... T. D. 2,640 ft.; running 10-in. csg.

SAXET FIELD—NUECES COUNTY

Gulf Coast Oil Co.'s No. 1 Maggie Harrall, 330 ft. from S and W lines of Blk. 32, Sec. 311 ..... T. D. 4,095 ft.; derrick burned down, being rebuilt.

Houston Oil Co.'s (Andy Bowen) No. 1 Prieur, H. B. Sheppard Sur. ..... T. D. 1,465 ft.; waiting for csg.
Houston Oil Co.'s No. 1 Lawrence ..... T. D. 2,740 ft.; shut in.
Houston Oil Co.'s No. 2 Rand Morgan ..... T. D. 5,105 ft.; drlg.
L. L. Smith's No. 1 Hunter, 150 ft. from S and W lines of N half of Hunter tract ..... T. D. 5,220 ft.; drlg.
Saxet Oil Co.'s No. 8 Dunn, 1,000 ft. N, 500 ft. W of No. 7 Dunn ..... T. D. 4,277 ft.; estimated 250 bbls. oil.

WHITE POINT FIELD—SAN PATRICIO COUNTY

Saxet Oil Co.'s No. 4 White Point ..... T. D. 5,712 ft.; perforating csg. at 3,189 to 3,209 ft.; testing.

LAREDO DISTRICT
KOHLER POOL—DUVAL COUNTY

Humble Oil & Refining Co.'s No. 50 Kohler, 2,805 ft. from S line, 165 ft. from W line of Sur. 164 ..... T. D. 6,325 ft.; drlg.

COLE POOL—DUVAL COUNTY

Magnolia Pet. Co.'s No. 1 W. Benavides, 330 ft. from N and W lines, Sur. 172 ..... Drlg. 2,270 ft.

JENNINGS-MUCKELROY POOL—ZAPATA COUNTY

E. C. Brogan's No. 2 Montemayor, 450 ft. from N line, 150 ft. from W line of Blk. 11, Sur. 64 ..... T. D. 1,300 ft.; drlg.
O. W. Killam's No. 9 Bustamente, Blk. 7, Share 5, Comitas grant ..... T. D. 1,100 ft.; drlg.
Pal-Mar Oil Co.'s No. 1 Bustamente, 150 ft. from NE and SE lines, Blk. 11, Share 5, Comitas grant ..... Rigging up.
Pray & Chamberlain's No. 5 Garza, 750 ft. to NW line, 450 ft. to NE line, Blk. 1, Zorro Subd. of Comitas grant ..... Rigging up.

RANDADO POOL—JIM HOGG COUNTY

Randado Oil Corp.'s No. 35 Palacios, 150 ft. to S line, 450 ft. to E line, Blk. 2, Sur. 291 ..... T. D. 1,301 ft.; completed 16 bbls.

CAROLINA-TEXAS POOL—WEBB COUNTY

George S. Marshall's No. 1 Benavides, 660 ft. from S line, 150 ft. from E line of Sur. 683 ..... Location.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 32)

BEXAR COUNTY

Ingersoll-Miller's No. 2 E. B. Carruth, 750 ft. S of No. 1 ..... T. D. 420 ft.; drlg.
Schneider, Rees et al's No. 2 Claussen, 12 miles NE of San Antonio ..... T. D. 702 ft.; shut down.

CALDWELL COUNTY

Mills et al's No. 1 McMahon, 275 ft. SW line, 75 ft. SE line of tract, J. Pinchback Sur. ..... T. D. 2,442 ft.; drlg.
M. G. Rayor's No. 1 Dunlap, 150 ft. NW and NE lines of farm, Solomon Seal Sur. ..... T. D. 2,515 ft.; standing.
R. R. Ogden's No. 1 O. S. Alexander, 1,300 ft. from N line, 150 ft. from E line of S. Spiller Sur. ..... T. D. 2,338 ft.; standing.

COMAL COUNTY

Caldwell & Lanier's No. 1 T. J. Byler, 175 varas from W line, 370 varas from N line of 320-ac. tract in the H.E.&W.T. No. 5,894 Sur. ..... T. D. 698 ft.; trying to set 8¼-in. csg.

DEWITT COUNTY

Gibson & Sturm's No. 1 Clark, Dolores Alderete Sur. .... Rigging up.

DUVAL COUNTY

Coffee et al's No. 1 Jose Garza, center Sur. 49 ..... T. D. 900 ft.; changing rig.
O'Byrne et al's No. 1 Well, B.S.&F. Sur. No. 568 .. .... T. D. 2,100 ft.; drlg.
S. J. Carpenter et al's No. 1 Juan Benavides, Blk. 33, Mesquite grant ..... T. D. 1,712 ft.; drlg.

FAYETTE COUNTY

Elam & Reynolds' No. 1 Florence, M. Muldoon Sur. No. 13 ..... T. D. 2,411 ft.; shut down.

GOLIAD COUNTY

V. F. Neuhaus' No. 1 J. E. Pettus, 4,750 ft. N, 28 degrees 20 minutes W of extreme SE cor. of 3,418-ac. tract in Maria de Jesus Ybarbo Sur. ..... T. D. 3,853 ft.; preparing to deepen.

GUADALUPE COUNTY

Harry J. Bruner's No. 1 Jim Sherrill, 150 ft. N line, 1,360 ft. W line of tract, George Allen League ..... T. D. 712 ft.; drlg.
McGarrity et al's No. 1 A. Wesch, Jr., 150 ft. to N and E lines of farm, H. M. Thompson Sur. ..... T. D. 897 ft.; drlg.
Schlemer, Atherton and Armstrong's No. 1 Ogletree, Robert Smith Sur. ..... T. D. 1,745 ft.; drlg.
Linne et al's No. 1 J. E. Linne, center 263-ac. tract in V. Cortario Sur. ..... Derrick.
San Antonio Oil & Royalty Co.'s No. 1 Dibrell, 150 ft. from N and W lines of Sec. 6, H.&T.C.R.R. Sur. .. Location.
W. J. Walton's No. 1 Zoboroski, 700 ft. W line of tract, 500 ft. S of Guadalupe River, in Joseph D. Clements Sur. ..... T. D. 1,360 ft.; drlg.

HAYS COUNTY

J. C. Jones et al's No. 1 Byder, John Ingram Sur. .. .. T. D. 900 ft.; drlg.

JIM HOGG COUNTY

Magnolia Pet. Co.'s No. 1 Cuellar, Sur. No. 575 ..... T. D. 4,423 ft.; abnd. dry.
Peterman & Minahan's No. 1 Palacios, Sur. No. 231 ... T. D. 1,360 ft.; shut down.
D. C. DeWitt's No. 1 Teofilo Gomez, 1,170 ft. from N line, 150 ft. from W line of Sur. 12 ..... T. D. 200 ft.; shut down.

JIM WELLS COUNTY

Gulf Production Co.'s No. 4 Schaeffer ..... T. D. 2,201 ft.; drlg.

KENDALL COUNTY

Borgett et al's No. 1 Haag, W. Avery Sur. ..... T. D. 1,165 ft.; shut down.
Dixon Oil Co.'s No. 1 Ottmar Behr, 823 ft. from S and N lines of Jessie Wilson Sur., 3 miles S of Sisterdale ..... T. D. 2,620 ft.; drlg.
Sitton et al's No. 1 Garvin, C of NE of D. L. Richardson Sur., in the D. L. Richardson Sur., 1 mile NE from Kendalia ..... T. D. 1,482 ft.; drlg.
Fred S. Dibble's No. 1 Ellebrach, Sur. 77, N part of county ..... Spudded in and shut down.
Hicks et al's No. 1 Speck & Wiedner, Thomas Sur. No. 27, 2 miles S of Twin Sisters ..... Location.

KERR COUNTY

Herbert Oil Co.'s No. 1 J. D. Witt, 1,320 ft. N line, 1,320 ft. W line of Sec. 1,923, W. H. Hamilton Sur. .. T. D. 200 ft.,; drlg.
Evans & Gant's No. 1 Selker-Mears, C.C.S.D.&N.G.R.G. Sur. No. 1,605 ..... T. D. 2,500 ft.; drlg.
Evans & Gant's No. 1 E. Young, A. E. Burge Sur. No. 28 ..... T. D. 280 ft.; drlg.
Evans & Gant's No. 2 Love, 150 ft. to S and W lines of Sur. 1,593 ..... Rigging up.
B. M. Hatfield's No. 1 Westland, Blk. 23, Westland Subd. to Kerrville ..... T. D. 460 ft.; standing.

KIMBLE COUNTY

C. L. Bryant et al's No. 1 Lambert, 7,700 ft. N and W lines of F. Lotta Sur. ..... T. D. 850 ft.; standing.
Kamoa et al's No. 1 Hodges ..... T. D. 2,970 ft.; shut down.

KINNEY COUNTY

C. R. Cox et al's No. 1 Rose, 1,344 varas from NW line, 100 varas from SW line of A. B. Harper Sur. ..... Location.

KLEBERG COUNTY

Barbee & Hunter's No. 1 Finnegan, 150 ft. from N and W lines of El Pasodezo Sur., 2 miles S of Ricardo... T. D. 2,260 ft.; took saturated oil core.

LAVACA COUNTY

F. P. Zoch's No. 1 Dobard, 950 ft. from N line, 150 ft. from W line of T. G. Western Sur. ..... T. D. 250 ft.; set surface csg.

LIVE OAK COUNTY

Burke-Greis Oil Co.'s No. 1 West Ranch, James Vaughan Sur. ..... T. D. 3,656 ft.; coring rock.
Henderson Coquat's No. 1 Hewitt ..... T. D. 54 ft.; set surface csg.

LEE COUNTY

Burt et al's No. 1 R. C. Saunders, J. Maxmillan Sur. .... T. D. 3,920 ft.; shut down.
A. H. Wheeler and associates' No. 1 fee, Blk. 47, H. Donohue Sur. ..... T. D. 3,315 ft.; standing.
C. B. Polk et al's No. 1 Stoltz, Hiram Donohue Sur. .... T. D. 2,100 ft.; drlg.

McLENNAN COUNTY

C. E. Groone et al's No. 1 League ..... T. D. 1,230 ft.; shut down.

McMULLEN COUNTY

Belt Pet., Inc.'s No. 1 Martin, 150 ft. NW line, 150 ft. to SW line of E. Melon No. 212 Sur. ..... T. D. 28 ft.; standing.
Camp and Stanolind's No. 1 Murphy, 1,845 ft. from W line, 165 ft. from N line, Sur. 123 ..... T. D. 2,209 ft.; drlg.
Whall, Scherer et al's No. 1 Shiner, Henry Brewer Sur... T. D. 1,798 ft.; drlg.

MEDINA COUNTY

Marshall Eskridge's No. 1 S. A. Irrigated Farms, 500 ft. from W line, 1,750 ft. from N line of M. W. Hewitt Sur. No. 39 ..... T. D. 902 ft.; abnd. dry.
J. H. Hickey's No. 1 Jungman, at N end Chicon Lake .... T. D. 425 ft.; shut down to move in heavier rig.
Sunflower Oil Co.'s No. 1 Mofield, J. Brothag Sur. No. 532 ..... T. D. 1,970 ft.; drlg.
F. E. Tegler's No. 1 J. P. Nixon, 600 ft. from W line, 584 ft. from N line of tract, near Ina Field ..... T. D. 705 ft.; drlg.; showing a little gas.
Yancey Development Co.'s No. 1 Fassler, Sur. No. 801 .. T. D. 1,608 ft.; fishing.

MILAM COUNTY

Dil-Tex Oil Corp.'s No. 1 Dilbeck, 450 ft. N and E lines of farm, Fernando Rodriguez Sur. ..... T. D. 2,425 ft.; drlg.
H. Elliott's No. 1 Kirkman, 150 ft. from NE lines of farm in M. Park Sur., NW from Gabriel ..... T. D. 1,618 ft.; drlg.
Red Bank Oil Co.'s No. 1 Foster, A. G. Berry Sur. .. .. Rebuilt derrick and moving in rig.
J. E. McKee et al's No. 1 Littleton, 150 ft. from N and 225 ft. from W line of lease, C. Chevalier Sur. ..... T. D. 510 ft.; abnd.

NUECES COUNTY

Southern Crude Oil Pur. Co.'s No. 1 Charles E. Stratton, 1,550 ft. E line, 330 ft. S line of P. Sancho Sur. .... Building derrick.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW Sec. 175 ..... T. D. 2,100 ft.; drlg; showed gas at 1,980 ft.
Gant-Kilgore and Evans' No. 1 A. D. Auld, C.C.S.D.& R.G.N.G. Sur. No. 23 ..... T. D. 4,007 ft.; showing gas and oil; waiting on csg.

SAN PATRICIO COUNTY

United Production Co.'s No. 1 Mayfield .... Rigging up.

STARR COUNTY

B. B. Tips' No. 1 F. Dayno, Lot 1, Porcion No. 81 .. ... T. D. 332 ft.; standing.
Menyard et al's No. 1 Sealbury, 150 ft. from E line, 6,550 ft. from N line, Share 5, Porcion 75, Jurisdiction of Carmargo ..... T. D. 411 ft.; tested dry.
Los Olmos Oil Co.'s No. 4 Kelsey-Bass, 2,208 ft. from W line, 60 ft. from N line, Blk. 7, Subd. Porcions 75, 76 and 77, Jurisdiction of Carmargo ..... T. D. 410 ft.; set csg.

TRAVIS COUNTY

Ratcliffe et al's No. 1 Jim Jones, 1,000 ft. S line, 750 ft. E line of farm in Amos Alexander Sur. ..... T. D. 305 ft.; drlg.
Waldron et al's No. 1 Cook, D. H. Minor Sur., 8 miles SW of Austin ..... T. D. 645 ft.; drlg. shale.

WEBB COUNTY

Cole Pet. Co.'s No. 4 Benavides, Sur. No. 1,601 ..... T. D. 2,200 ft.; drlg.
Eugene Garner, Jr.'s No. 1 Billings, 411 ft. E line, 966 ft. N line of NW NE, Sur. 71 ..... Location.

WILLIAMSON COUNTY

Wilburn et al's No. 1 Caroline Hurts, P. Coursey Sur. .... T. D. 1,327 ft.; shut down.
Wilson et al's No. 1 Walker ..... T. D. 2,260 ft.; shut down.

WILSON COUNTY

A. M. Blume's No. 1 Nickolson, C. Diaz Sur. ..... T. D. 900 ft.; drlg.

ZAPATA COUNTY

T. H. Ward's No. 1 Uribe, 150 ft. NW line, 150 ft. SW line, Blk. 8 Subd., Share 7, Partition No. 6, T. Uribe Partition of Jose V. Borrego Sur. ..... Rigged up and standing.
Bill Henry et al's No. 1 Gopher Trust estate, Borrego grant ..... T. D. 1,365 ft.; standing.
Penny Prod. Co.'s No. 1 Juan V. Cuellar, Jr., et al, 175 ft. NE line, 175 ft. SE line Poppas Subd., Porcion 33 and 34, Blk. 1, Sur. 2 ..... T. D. 2,035 ft.; drlg.
National Oil Co.'s No. 1 Zapata Trust Estate, 617 ft. NW line, 96 ft. NE line, Blk. 97, De Prom Subd., Porcion 6 ..... T. D. 690 ft.; drlg.
National Oil Co.'s No. 2 Adams, 150 ft. from NW line and SW line, Blk. 11, Borrego grant ..... T. D. 1,320 ft.; drlg.
Mackenzie & Talmadge's No. 1 Trevino, 400 ft. SE line, 200 ft. NE line, Blk. 6, Sur. No. 4, Porcion 2 and 3 ..... T. D. 709 ft.; standing.

ZAVALA COUNTY

Lloyd North's No. 1 Mrs. Clay West Burns, 1,750 ft. N line, 3,100 ft. W line of 500-ac. tract in Sur. No. 200.. Location.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 34)

PIERCE JUNCTION—HARRIS COUNTY

Rio Bravo Oil Co.'s No. 14-A Settegast (workover) ..... Sand and shale showing oil 5,375 ft.; rigging up to pump.
Rio Bravo Oil Co.'s No. 22-A Settegast, J. Kopman Sur. No. 44, 990 ft. S and 200 ft. W of NE cor. "A" lease.. Drlg. sandy shale 3,664 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 13 Mayes, B.B.B.&C. Sur. No. 4, 75 ft. W and 700 ft. S of NE cor. of survey ..... Drlg. hard sand 5,373 ft.

PORT NECHES—ORANGE COUNTY

The Texas Company's No. 1 Polk-Kuhn-Glass, 260 ft. E and 1,545 ft. S of SW cor. Marshall Beauchamp Sur., in the T. J. Notgrass Sur. ..... Rig.
The Texas Company's No. 3 Kuhn, 587 ft. S and 150 ft. W of NE cor. of the Mary E. Hall Sur. No. 2... Location.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 21 Cade, Fitzsimmons Sur., 150 ft. W of No. 17 ..... Drlg. shale and sand 4,261 ft.

HULL—LIBERTY COUNTY

Sun Oil Co.'s No. 8 Carr (D.D.), Jesse Devore Sur., 50 ft. from W line and 100 ft. from S line of tract .... T. D. 1,884 ft.; cutting liner to deepen.
Weneedan Oil Co.'s No. 1 Palmer, Chas. Underton Sur., 150 ft. from N line and 200 ft. from E line of tract... Drlg. sand and boulders 590 ft.

NORTH DAYTON—LIBERTY COUNTY

Harrison-Abercrombie's No. 2 Jones, H.&T.C. Sur. No. 125, 50 ft. from N line and 450 ft. from E line of tract ..... Drlg. gumbo 2,886 ft.

DAMON MOUND—BRAZORIA COUNTY

D. C. Wellock's No. 1 Hamon, John P. Mills Sur., 1,115 ft. NE line and 60 ft. W line Blk. 1 ..... Drlg. sandy shale 612 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 6 Jamer, J. F. Perry Sur., 600 ft. NW No. 5 and 1,200 ft. from SW line ..... Drlg. sand 1,228 ft.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Oil Co.'s No. 7 Davis, David Kokernot Sur., 100 ft. S of No. 4 ... Drlg. sandy shale 5,740 ft.
Cranfill-Reynolds Oil Co.'s No. 19 Esperson, C. W. Fisher Sur., 400 ft. E No. 9 and 550 ft. N No. 14 ... Drilling.

BLUE RIDGE—FORT BEND COUNTY

Teleschow, Cady et al's No. 5 Blakely, E. Drew Sur., 90 ft. E, 150 ft. S of NW cor. of E half, Lot 4, Blk. F ... Set 40 ft. 4½-in. screen 2,993 ft.; flowed mud showing oil; pulling screen.

ORANGE—ORANGE COUNTY

Gulf Prod. Co.'s No. 1 K. Kishi, J. Dyson Sur., 378 ft. from E line and 234 ft. from S line of tract ... Rig.

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 14 Boyt, H.&T.C. Sur. No. 22, 500 ft. N of No. 10 ... Drlg. sticky shale 3,576 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 118-A Cotton ... Drlg. sandy shale 456 ft.

MOSS BLUFF—LIBERTY AND CHAMBERS COUNTIES

Humble Oil & Ref. Co.'s No. 2 Sergeant, east flank ... Standing 5,931 ft.
Humble Oil & Ref. Co.'s No. 7 Sterling, J. McFaddin Sur., 350 ft. S and 100 ft. W No. 6 Sterling ... Drlg. shale 6,181 ft.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 10 Wilson Heard, Refugio town tract, 150 ft. from N line and 150 ft. from E line of S 50-acre tract ... Sand showing oil 3,650-57 ft.; cmtd. 6¼-in. csg. 3,650 ft.

Houston Oil Co.'s No. 5 Mrs. M. H. Ryals, Refugio town tract, 150 ft. from N line of tract and 527 ft. east of No. 1 ... Cored salt water sand 3,655 ft.; plugged to 3,649 ft.; cmtd. 7-in. (O.D.) csg. 3,624 ft.; drld. plug and set 32½ ft. screen; swabbing.

Houston Oil Co.'s No. 6 Pratt-Hewitt-Rooke (D.D.), Thomas Mullen Sur., 1,150 ft. N and 200 ft. W of SE cor. of tract ... Sand showing oil 3,705 ft.; cmtd. 5 3/16-in. csg. 3,678 ft.

Larco Oil & Gas Co.'s No. 1 Strauch, C Lot 13, Blk. 2 ... Comp. flowing 75 bbls. daily 3,690 ft.; sanded.

Mission Drilling Co.'s No. 2 J. J. O'Brien, Refugio townsite ... Total depth 6,502 ft.; showing salt water; plugged to 6,400 ft.; tested dry; abandoned.

Mission Drilling Co.'s No. 2 J. J. O'Brien, Refugio town tract, 150 ft. from E line and 150 ft. from S line 1½-acre tract ... Drlg. sticky shale and lime 2,235 ft.

Moody-Seagraves Prod. Co.'s No. 3 O'Connor (D.D.), Refugio town tract, 1,700 ft. from line and 150 ft. from N line tract ... Sand 6,431-42 ft.; comp. 300 bbls. pipe line oil, 1,250 lbs. pressure, ¼-in. choke.

Moody-Seagraves Prod. Co.'s No. 6 Morgan-O'Connor ... Total depth 6,470 ft.; sidetracked to sand showing oil 6,405-16 ft.; comp. 400 bbls., 1,900 lbs. pressure, ¼-in. choke.

T. P. Morgan's No. 1 Lambert, Refugio town tract, 450 ft. from N line and 650 ft. from W line of 105-acre tract ... Cmtd. 13-in. (O.D.) csg. 300 ft.
Pearson Properties' No. 5 Ryals, 174 ft. from S line of lease and 475 ft. E of No. 3 ... Drlg. sticky shale 3,815 ft.
Ed Price's No. 3 Mission Rover, Refugio town tract, 750 ft. up river from No. 2 on S bank of river ... Shut down 350 ft.
United Prod. Corp.'s No. 6 O'Brien, 150 ft. from S line of tract, 350 ft. W No. 3 ... Drlg. lime and shale 5,251 ft.

United Prod. Corp.'s No. 3 Mitchell, 150 ft. from N line and 609 ft. from W line of tract ... Total depth 6,468 ft.; plugged to 6,425 ft.; to perforate 5 3/16-in. csg. in sand 6,411-21 ft.

United Prod. Corp.'s No. 1-B W. J. Fox, Wm. Hews and L. Brown Sur., 2,541.7 ft. NE along SE line from SE cor. lease and 330 ft. NW at right angles ... Drlg. sand and rock 920 ft.
United Prod. Corp.'s No. 4 M. F. Lambert, Wm. Hews and L. Brown Sur., 2,514.7 ft. NE along NW line from SW cor. lease and 330 ft. SE at right angles ... Location.
United Prod. Corp.'s No. 5 Holmes Heard, 660 ft. from N line and 2,375 ft. from W line Blk. 8, town tract ... Cmtd. 13-in. (O.D.) csg. 490 ft.; T. D. 510 ft.

SOUTH LOUISIANA FIELDS
LOCKPORT—CALCASIEU PARISH

Vacuum Oil Co.'s No. 7 State, 319 ft. N and 260 ft. W SE cor. NE Sec. 8-10s-9w ... Drlg. shale 6,658 ft.
Vacuum Oil Co.'s No. 5-A Farquahar, 105 ft. S and 110 ft. E of NW cor. SW NE Sec. 8-10s-9w ... Rig.
Yount Lee Oil Co.'s No. 2 Miller, 125 ft. N and 130 ft. W SE cor. NE NW Sec. 8-10s-9w ... Oil sand 6,527-42 ft.; set 1 jt. screen and 2½-in. tubing on seal to top; comp. 400 bbls. fluid, 50% water, 250 bbls., ⅝-in. choke.

EDGERLY—CALCASIEU PARISH

Rex Pet. Co.'s No. 2 Prairie Narroni, Sec. 21-9s-11w, 360 ft. from S line and 50 ft. from E line of lease ... Total depth 4,143 ft. in salt; sidetracked to 4,060 ft.; set 10 ft. 3-in. screen; bailing.

HACKBERRY—CAMERON PARISH

R. E. Seiss' No. 2 J. M. Vincent ... Total depth in rock 2,042 ft.; cmtd. 6⅝-in. csg. 2,004 ft.
The Texas Company's No. 8 State ... Derrick.
Yount Lee Oil Co.'s No. 34 State ... Location.
Yount Lee Oil Co.'s No. 36 State ... Location.
Yount Lee Oil Co.'s No. 37 State ... Location.
Yount Lee Oil Co.'s No. 38 State ... Location.
Yount Lee Oil Co.'s No. 39 State ... Location.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 1 Gray (D.D.), Sec. 33-10s-12w ... Set 26 ft. 4½-in. screen 2,426 ft.; bailed salt water; to deepen.

Vinton Pet. Co.'s No. 7 Matilda Gray (D.D.), 157 ft. N and 674 ft. W of SE cor. SW NE of Sec. 33-10s-12w ... Fishing screen to deepen 2,899 ft.

FORT BARRE—ST. LANDRY PARISH

The Texas Company's No. 10 Botney Bay, Sec. 4-6s-5e, 100 ft. S line and 100 ft. E line, Daniel 55-ac. tract ... Derrick.

SWEET LAKE—CAMERON PARISH

Magnolia Pet. Co.'s No. 2 Sweet Lake, Sec. 5-13s-7w ... Total depth 4,874 ft.; rebuilt derrick and rig after fire; to resume drlg.

Pure Oil Co.'s No. 5 Yount Lee (D.D.), Sec. 12-13s-8w ... Fishing screen and liner to deepen 5,658 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 762 fee (D.D.), Sec. 29-9s-10w ... Pulling screen to deepen 2,490 ft.
Union Sulphur Co.'s No. 765 fee, Sec. 29-9s-10w ... Tested salt water 4,330 ft.; abnd.
Union Sulphur Co.'s No. 767 fee, 323 ft. E and 180 ft. N of C Sec. 29-9s-10w ... Drlg. 3,020 ft.

MISCELLANEOUS WILDCATS
TEXAS
AUSTIN COUNTY

O'Hara et al's No. 1 Schrader ... Junked and abandoned 3,920 ft.
Parmerson & Cafferkey et al's No. 1 W. M. Schlecte, John Fitzgibbons Sur., 1,850 ft. from SE line and 3,100 ft. from NE line of survey ... Shut down 1,452 ft.

BRAZORIA COUNTY

The Texas Company's No. 1 Beicher, Manvel, 167 ft. SE of NW line and 323 ft. NE of SW line, Lot 18, Blk. A, Suburban Gardens Subd. ... Drlg. gumbo and lime 1,941 ft.
United North & South Oil Co.'s No. 1 Daisy B. Lewis, S. F. Austin 5 league, 563 ft. S and 325 E from NW cor. 100-ac. tract ... Rig.

United Oil Syndicate's No. 1 Speer, A. A. Talmadge Sur. ... Set 48 ft. 4½-in. screen 1,866 ft.; bailed salt water; plugged to 1,841 ft.; standing.

BURLESON COUNTY

Mid-South Oil Co.'s No. 1 Duckworth ... Abandoned 3,073 ft.
Reynolds Oil Co.'s No. 1 Harris, 500 ft. from W line and 400 ft. from N line of J. M. McKean Sur. ... Shut down 400 ft.

CALHOUN COUNTY

The Texas Company's No. 1 Smith, J. Timmins Sur., Will Mousin and Driscoll Subd. ... Drlg. dry sand 5,335 ft.

FORT BEND COUNTY

Cullen & West and Gulf Prod. Co.'s No. 1 Lockwood, Lockwood, John Rabb Sur., 300 ft. out of SW cor. 323-acre tract ... Drlg. shale and lime 1,836 ft.

GRIMES COUNTY

Rianjo Oil Co.'s No. 2 Cuthrell, Pat B. O'Connor Sur., center of 110-acre tract ... Derrick.

HARDIN COUNTY

Plummer & McDaniel's No. 1 T. S. Reed, 2,500 ft. from W line and 500 ft. from N line of T.&N.O. Sur. No. 296 ... No report.

HARRIS COUNTY

Hattie Baldwin's No. 1 Krahn, 350 ft. out of NW cor. L. Finn Sur. ... Shut down in sand and gravel 209 ft.

Cypress Oil & Dev. Co.'s No. 1 C. Fritz, 500 ft. from N line and 500 ft. from E line of J. Duckworth Sur. ... Sulphur water sand 451 ft.; cmtd. 8-in. csg.; standing.

Humble Oil & Ref. Co.'s No. 5 Minnetex, Mykawa, 150 ft. from S line and 200 ft. from W line, Lot 261, Wm. Lovett Sur. ... Location.
Humble Oil & Ref. Co.'s No. 6 Minnetex, Mykawa, Wm. Lovett Sur., C of Lot 254 ... Drlg. rock 5,381 ft.

JACKSON COUNTY

Chicago-Gulf Co.'s No. 1 Rogers (workover) ... Drill stem test 3,952 ft. showed dry gas, 1,100 lbs. pressure; waiting csg.

LIBERTY COUNTY

J. R. Ingram's No. 1 C. T. Palmer, James Fenner Sur., 1,000 ft. from W line and 850 ft. from S line of tract ... No report.
Hamm et al's No. 1 Harvard, Davis Hill ... Gumbo 1,015 ft.; shut down.
Tucker et al's No. 1 Bell, H.&T.C. Sur. No. 4 ... Gumbo 560 ft.; shut down.

MATAGORDA COUNTY

H. C. Cockburn's No. 3 Hawkins, Shepherds Mott, 4,810 ft. SE along SW line of Farnum Fry Sur., thence 242 ft. NE at right angles ... Drlg. sand and shale 4,636 ft.
Empire Gas & Fuel Co.'s No. 1 Baker, Citrus Grove ... Abandoned in heaving shale 6,460 ft.

MONTGOMERY COUNTY

Mike Hogg's (Lake Creek Oil Co.'s) No. 1 Hunt, south of Conroe ... Drlg. 4,496 ft.
H. W. Lowrie, Jr.'s No. 1 Groggan (G. J. Sunday), Cyrus Wickerson Sur. ... Drlg. shale and lime 3,285 ft.
Price & Wilhite's No. 2 Juerges ... Drlg. sandy shale 4,509 ft.

ORANGE COUNTY

Altex Oil Co.'s (Veteran Oil Co.) No. 1 Reed, A. Nelson Sur. No. 1, 500 ft. from N line and 250 ft. from E line of tract ... Formerly temporarily abnd. 4,603 ft.; sidetracked hole 1,200 ft.; drilled to 1,820 ft.; shut down.
Crew Oil Co.'s No. 1-A Mansfield, 50 ft. E of No. 1 ... Drlg. gumbo 902 ft.

POLK COUNTY

Freeman et al's No. 2 Freeman ... Shut down 3,124 ft.

REFUGIO COUNTY

Blanco Creek Oil Co.'s No. 1 Damaan, 150 ft. from N line and 150 ft. from W line of Blk. 16, Bonnie View Ranch Subd. ... Sand 4,166-72 ft.; reaming to test.
Humble Oil & Ref. Co.'s No. 1 O'Connor, John Keating Sur., 6,012 ft. S from NE cor. along SE line of Lon T. Rios Sur., thence 7,375 ft. W at right angles in John Keating Sur. ... Location.

SAN JACINTO COUNTY

E. P. Edward et al's No. 1 Bennett, northwest of Cold Springs ... Spudded and shut down.

TYLER COUNTY

King Oil Co.'s No. 1 Caswell ... Sand and shale showing oil 1,255 ft.; cmtd. 6-in. csg. 1,218 ft.

Allied Pet. Co.'s (Texas Southern Pet. Co.'s) No. 3 Wilson, Mrs. E. Cherry Sur. No. 795, 1,500 varas from W line and 600 varas from N line ... Drlg. 4,930 ft.
Lew Wentz' No. 1 Mann, James Seals Sur., 330 ft. out of SW cor. 804.25-acre tract ... Drlg. gumbo 823 ft.

VICTORIA COUNTY

Houston Oil Co.'s No. 1 Conrad, T.&N.O. Sur. No. 1, 1,100 ft. from SW line and 100 ft. from NW line ... Drlg. gumbo 1,867 ft.
Simpson-Fell and Westheimer et al's No. 1 Levi, 2,200 ft. from SW line and 2,000 ft. from NW line of S.A.&M.G. Sur. No. 4 ... Drill stem stuck 4,503 ft.
T. B. Slick estate's No. 1 McFaddin, J. Vairan Sur., 17,700 ft. NE along SE line from S cor. of survey and thence 5,050 ft. NW at right angles ... Sand showing gas 3,502-12 ft.; blew in dry gas, 250 lbs. pressure on ½-in. choke; screen blew loose; killed well and trying to reset.

The Texas Company's No. 3 McFaddin, S 15° W 6,200 ft. and N 75° W 1,850 ft. out of NE cor. John M. Rine Sur. ... Rig.
United Prod. Corp.'s No. 4-A McFaddin, M. Traviesa Sur., 1,320 ft. W along N line of C. L. Mann Sur. from NE cor. and 1,980 ft. N at right angles ... Coring sand 3,091 ft.

WASHINGTON COUNTY

Joe Baker et al's No. 1 Kramer, Brenham, 600 ft. S and 300 ft. W NE cor. 92 acres ... No report.
Penn-Tex. Oil Co.'s No. 2 Kamas Brenham, S. M. Williams Sur. ... Sand showing 3,020-31 ft.; preparing to test.

Vegus Oil Co.'s No. 1 Graves, S. Clampit Sur., 200 ft. from N line and 900 ft. from W line 111-acre tract ... Coring sand 2,224 ft.

WHARTON COUNTY

H. H. Givens' No. 3 Rudgins, I. B. Phillips Sur., 19 ft. W of No. 2 ... Drlg. shale 2,698 ft.

SOUTH LOUISIANA
BEAUREGARD PARISH

Beauregard Gas & Oil Co.'s No. 1 J. E. Cochran, 400 ft. S and 700 ft. W from NE cor., Sec. 24-4s-12w ... Drlg. gumbo 2,843 ft.

CALCASIEU PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-12w ... Shut down 875 ft.
J. O. Davis' No. 1 Industrial, Sec. 29-9s-10w ... Set 6⅝-in. casing 172 ft.; 6⅝-in. screen on bottom 4,568 ft.; drilled plug and bailed dry; standing.

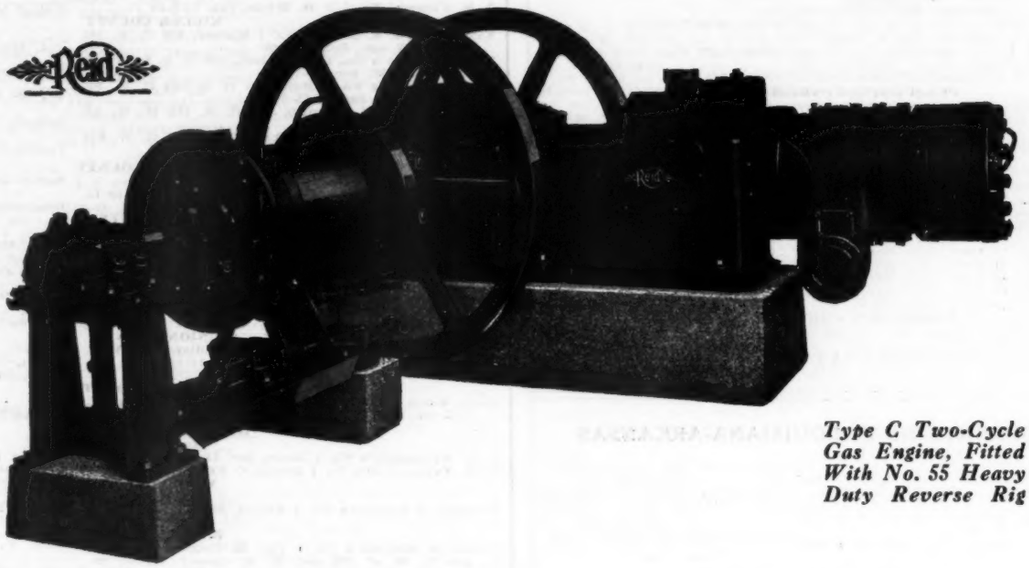
Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w ... Shut down 2,258 ft.
Dr. Thomas et al's No. 1 John Hewitt ... Location.
Vacuum Oil Co.'s No. 1 Watt (D.D.), 225 ft. out of SE cor. Sec. 12-9s-7w ... Drlg. sandy shale 6,766 ft.

CAMERON PARISH

Vacuum Oil Co.'s No. 2 Cameron Meadows, 3,120 ft. S and 1,900 ft. W from NE cor. Sec. 21-14s-9w (500 ft. S No. 1) ... Drill stem stuck 4,312 ft.
The Texas Company's No. 7 State, Calcasieu Lake ... Location.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 11 Lake Peigneur, Jefferson Island ... Shut down 869 ft.
Jefferson Lake Oil Co.'s No. 13 Lake Peigneur, S 84°, W 3,100 ft. from NE cor., Sec. 55-12s-5e, thence 150 ft. N ... Caprock 639-700 ft.



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IBERVILLE PARISH

Standard Oil Co.'s No. 1 Gay, Bayou Choctou ..... Sand showing oil 4,353 ft.; cmtd. 4½-in. csg. 4,332 ft.
Standard Oil Co.'s No. 7 Wilbert, Bayou Blue ..... Derrick.
Standard Oil Co.'s No. 6 Schwing, Bayou Blue, Sec. 73-9s-11e, 317 ft. S of No. 2 ..... Drlg. sand 2,172 ft.
Standard Oil Co.'s No. 7 Schwing, Bayou Blue, Sec. 74-9s-10w, N 45°, W 1,800 ft. from No. 5 ..... Drlg. 1,202 ft.
Standard Oil Co.'s No. 9 Wilbert, Bayou Des Glaise, 700 ft. E and 760 ft. N of SW cor. SE SW Sec. 78-8s-8e.. Salt 3,928-4,048 ft.; abandoned.

PLAQUEMINES PARISH

Humble Oil & Ref. Co.'s No. 4 Cockrell-Moran, Sec. 14-20s-26e, 1,905 ft. S and 2,860 ft. E of station ..... Cmtd. surface csg. 1,158 ft.

TERREBONNE PARISH

The Texas Company No. 6 State, Caillou Island ..... Total depth 4,486 ft.; sidetracking sandy lime 4,267 ft.
The Texas Company's No. 1 La.L.&E., Bay St. Elaine ... Drlg. shale 5,476 ft.
The Texas Company's No. 4 State, Dog Lake ..... Caprock 4,593 ft.
The Texas Company's No. 3 La.L.&E., Bay Junop ..... Location.
The Texas Company's No. 4 La.L.&E., Bay Junop ..... Location.
The Texas Company's No. 6 State, Lake Barre ..... Drlg. salt 4,012 ft.; top salt 3,848 ft.
The Texas Company's No. 10 State, Lake Barre ..... Location.
The Texas Company's No. 11 State, Lake Barre ..... Driving piling.
The Texas Company's No. 12 State, Lake Barre ..... Location.
The Texas Company's No. 13 State, Lake Barre ..... Drlg. gumbo 3,781 ft.
The Texas Company's No. 14 State, Lake Barre ..... Location.

VERMILLION PARISH

Pure Oil Co.'s No. 1 Alliance Land, Sec. 34-11s-1w, 2,600 ft. N and 300 ft. E of SW cor. section ..... Drlg. coarse sand 4,199 ft.

WEST FELICIANA PARISH

Putnam Syndicate's No. 2 Como Plantation, Sec. 51-1s-4w. Shut down for repairs 1,776 ft.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 29)

29-12-12 ..... Arranging to set 6-in. csg. 2,580 ft; T.D. 2,657 ft.
E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW, Sec. 30-13-15 ..... Coring sandy shale 1,745 ft.
Rellitt Oil Co.'s No. 1 Gannon Hrs., 300 ft. S and E, NW cor. NW NE, Sec. 12-11-16 ..... S.D. for fuel 1,300 ft.
Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13.... Rigging up.

NATCHITOCHES PARISH

W. M. Coats' No. 1 Collins, 730 ft. N, 50 ft. E. C, Sec. 28-9-10 ..... T.A. 4,091 ft.
J. W. Cooper et al's No. 1 Cooper, NW SW, Sec. 35-11-10 ..... S.D. 3,156 ft.
Cooper et al's No. 2-A Cooper, C SE SE, Sec. 32-11-10.. S.D. 1,518 ft.
C. M. Talley et al's No. 1 C. M. Talley, 1,980 ft. W, 660 ft. S, NE cor. SE, Sec. 29-11-10 ..... Tested dry; S.D. 1,380 ft.

RED RIVER PARISH

La. Oil Dev. Co.'s No. 2 La. Delta Pecan Co., 2,950 ft. S, 300 ft. E, NW cor., Sec. 27-13-11 ..... Spudded in; S.D. 50 ft.
Mack Jourden Co.'s No. 1 Lockett, 4,035 ft. S, 1,050 ft. E, NW cor. SW, Sec. 29, in Sec. 32-13-10 ..... Drlg. 1,520 ft.

RICHLAND PARISH

Alto Gas Co.'s No. 2 Hunt, 660 ft. S and E, NW cor., Sec. 13-17-5 ..... Derrick.
Southern Carbon Co.'s No. 2 Rosengraut & Ducomb, 1,980 ft. N, 660 ft. E, SW cor., Sec. 19-17-6..... Drlg. black shale 2,350 ft.
Southern Carbon Co.'s No. 3 Rosengraut & Ducomb, 660 ft. S and E, NW cor., Sec. 30-17-6 ..... Set 6-in. csg. 2,285 ft.
Southern Carbon Co.'s No. 1-B C. M. Noble, 2,966 ft. N, 1,525 ft. W. cor. Secs. 7, 8, 17 and 18, in Sec. 37-16-6 Location.
United Gas Public Service Corp.'s No. 4 Earle, SE cor., Sec. 1-16-5e ..... 3,131,000 ft. gas 2,460 ft.

SABINE PARISH

Diffie & Barnett's No. 1 Lites (was J. W. Clark's), 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 34-8-11..... S.D. 105 ft.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW, Sec. 10-8-13..... Cored sandy lime with show of gas 3,262-70 ft.
Lacey Prod. Co.'s No. 1 Cooper, 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 30-8-11 ..... W.O.S.R.; T.D. 2,620 ft.
Jean Longoria's No. 1 Belton (no check), Sec. 31-9-13.. Set 8-in. 1,590 ft.
H. W. Perritt's No. 4 Bowman-Hicks, SE cor. SE NE, Sec. 3-7-12 ..... Tested dry 2,290 ft; arranging to deepen.
H. W. Perritt's No. 1 Boring, NW cor. NW NW, Sec. 11-7-12 ..... 2,000 ft. oil in hole 2,402 ft; W. O.S.R.
Stovall Drlg. Co.'s No. 1 Nulton, SE cor. NW NE, Sec. 1-7-13 ..... Drlg. chalk rock 2,265 ft.
A. H. Thames' No. 1 Edward est., 150 ft. NW SE cor. NE SE, Sec. 8-8-13 ..... S.D. for wtr. 1,200 ft.

TENSAS PARISH

Nick Barbare's No. 1 Mutual Realty Co., 660 ft. S and W, NE cor., Sec. 36-11-9e ..... Began June 7; S.D. 20 ft.
A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12 ..... S.D. 3,545 ft.

UNION PARISH

Bahan & Bahan's No. 1 U. J. Jarmon, 720 ft. E, 3,320 ft. S, NW cor. NE, Sec. 27-22-2. ..... Location.
Root Refining Co.'s No. 1 Odus Douglas, 330 ft. S and E, NW cor. NE SW, Sec. 9-22-2. ..... Location.

WEBSTER PARISH

Coyle, tr.'s No. 1 Fraser, 300 ft. N, 300 ft. E, SW cor. NE SE, Sec. 27-23-11 ..... Derrick.

WEST CARROLL PARISH

United Gas Public Service Co.'s No. 1 Pioneer Cooperage, 663 ft. E, 2,954 ft. S, NW cor., Sec. 29-21-9 .... Drlg. 2,670 ft.

WINN PARISH

Gulf Ref. Co.'s No. 1-A Bodcaw Lbr. Co., 911 ft. N, 976 ft. E, SW cor., Sec. 4-10-5w ..... Began June 8; set 15½-in. 201 ft.

ARKANSAS

CHICOT COUNTY

R. R. Smith's No. 1 Lytle, 660 ft. N, 660 ft. E. C, Sec. 21-23-3 ..... T.A. 2,925 ft.

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenwelder, Rhea & Kitchen Sec. 13-17-22 ..... S.D. 778 ft.

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C NW SE, Sec. 4-20-3 ..... Repairing derrick 1,252 ft.

CLEBURNE COUNTY
(Cable tools)

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9 ..... S.D. 3,740 ft.

DALLAS COUNTY

E. C. Brewer's No. 1 W. E. Hillman, 330 ft. E, 40 ft. S, NW cor. SE NE, Sec. 20-10-13 ..... S.D; W.O. 2,869 ft.
J. H. James, tr.'s No. 1 Fordyce Lbr. Co., 200 ft. S, 200 ft. E, NW cor. NW NE, Sec. 11-9-15 ..... S.D. funds 2,520 ft.

GRANT COUNTY

Spann & McClung's No. 1 Sarah Page, 660 ft. W, 660 ft. S, NE cor. NW, Sec. 3-3-13 ..... S.D. 1,024 ft.

HOT SPRINGS COUNTY

Star Oil Co.'s No. 1 Cunningham (was J. R. Lockhart's), 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16 .. Drlg. hard shale 1,217 ft.

LAFAYETTE COUNTY

Smitherman & McDonald's No. 1 Rogers, 330 ft. N and E, SW cor. NW SE, Sec. 17-15-22 ..... S.D. 2,035 ft.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 330 ft. W, NE cor. NE SW, Sec. 5-5-7 ..... Drlg. shale 1,369 ft.

LITTLE RIVER COUNTY

Roberts Oil Co.'s No. 1 H. J. Russell, 330 ft. E, 330 ft. S, NW cor., Sec. 25-13-29 ..... Location.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26 ..... S.D; W.O. 3,570 ft.

MILLER COUNTY

East Texas O. & G. Co.'s No. 1 Harvey, 500 ft. E, 300 ft. S, NW cor., Sec. 2-15-26 ..... T.A. 910 ft.
E. & F. Oil Co.'s No. 1 E. L. Beck, 200 ft. S, 200 ft. E, NW cor. SW, Sec. 36-15-26 ..... T.A. 2,968 ft.
Fitzwater et al's No. 1 Beck, 200 ft. N, 200 ft. W, SE cor. SW SE, Sec. 33-15-26 ..... T.A. 93 ft.
J. D. McRae's No. 1 Smith, 150 ft. N, 150 ft. W, SE cor., Sec. 28-15-26 ..... Derrick.
W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-20-27 ..... Location.

OUACHITA COUNTY

Copenhaven et al's No. 1 Elliott, Sec. 11-15-17 ..... Bailed dry 2,210 ft; S.D; W.O.
Boling & McLeon's No. 1 L. D. Nealy, 150 ft. S, 150 ft. W, NE cor. SE SW, Sec. 25-16-16 ..... Drlg. shale 1,532 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14 ..... T.A. 2,909 ft; (corrected depth).
E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE, Sec. 21-8-24 ..... Coring rock 762 ft.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26..... S.D; T.D. 1,436 ft.
Waldron O. & G. Co.'s No. 1 White, NE cor. SW NW, Sec. 17-3n-29 ..... S.D; waiting on csg. 1,860 ft.

UNION COUNTY

Chapman & Wilson's No. 1 A. H. Hadley, 330 ft. N, 330 ft. E, SW cor. NE SW, Sec. 3-18-13..... 600 ft. fluid 30% S.W. in hole; T.A. 3,570 ft.

VAN BUREN COUNTY

Glenn Kohle et al's No. 1 Scalan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-12 ..... T.A. 50 ft.

WASHINGTON COUNTY
(Cable tools)

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30..... S.D. for funds 1,795 ft.
H. H. Taylor et al's No. 1 Runny, C NE SW, Sec. 1-13-29 S.D. 1,700 ft.

YELL COUNTY
(Cable tools)

Pegmeier & Luckett's No. 1 Falcon, Sec. 26-7-21 ..... S.D. 5,710 ft.

EAST TEXAS

BOWIE COUNTY

Devore & Midfield's No. 1 Roy B. Cooper, 200 ft. S, 200 ft. W of NE cor. R. B. Cooper 115-ac. tr., Wm. Ward Sur. ..... Drlg. 2,520 ft.
Hindeman & Ball's No. 1 Merritt (was Maud-Redwater Oil Co.'s), 175 ft. N, 175 ft. E, SE cor. G. W. Hardidge 100-ac. tr. on Floyd Merritt tr. in Y. S. McKinney Sur. ..... S.D. 2,520 ft.
Parkington & Jones' No. 1 W. W. Whybark, 200 ft. S, 200 ft. W of SW cor. J. H. Dyer Sur. ..... Derrick.
Lee Timberlake et al's No. 2 Tidwell, 2,510 ft. N, 455 ft. W, SE cor. T. M. Rice Sur. ..... S.D; W.O. 3,000 ft; shale.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tr. in J. H. Murphy Sur. ..... S.D. 3,600 ft.

CASS COUNTY

E. K. Atkinson's No. 1 T. J. Wilson, 1,056 ft. S of N line, 3,276 ft. E of W line of H.R.S., J. R. McFarland Sur. ..... Moving in rig.
R. G. Baker's No. 1 W. R. Caver, on W. R. Caver 75-ac. tr., John Lick Sur. ..... S.D. 2,630 ft.
Davis & Pigg's No. 1 Roy Brian, SW cor. Roy Bryan 88-ac. tr., Albert H. Latimer Sur. ..... S.D. 1,975 ft.
Everts Drlg. Co.'s No. 1 H. W. Whittington, 200 ft. S and W, NE cor. 69-ac. Whittington tr., L. Strong Sur. ..... Set 12½-in. 80 ft; S.D. 800 ft.
Geo. McKamie's No. 1 R. E. Hall, 150 ft. N, 150 ft. W, SE cor. Hall's 117-ac. tr., H. Buckler Sur. ..... Coring 3,240 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. ..... S.D. 3,990 ft.
John Nelson's No. 1 T. A. Irvin, McNary Harris Sur., 200 ft. S and E of NW cor. ..... Rigging up.
Olds & Smith's No. 1 Atheny, 3,056 ft. W-E line, 856 ft. S-N line, J. C. Byers Sur. ..... S.D. 2,634 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 ac. in K. E. Welborn Sur. .... S.D. 2,275 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 3,100 ft. E, NW cor., Wm. Davis Sur. ..... S.D. 955 ft.

HARRISON COUNTY

Ben Banner's No. 1 J. C. Lowery, in center of J. C. Lowery 81-ac. tr., W. D. Stanfield Sur. ..... Drlg. shale 3,050 ft. (corrected depth).
Everett Prod. Co.'s No. 1 R. L. Gypert, 1,320 ft. W of NE cor., 150 ft. at right angles from NE cor. of E. M. Wilder Sur. in Richard Hooper Sur. ..... Drlg. 3,230 ft.
Gholson et al's No. 1 Bivins Farm Co., on J. K. Bivins, Jr.'s 320-ac. tr., Thos. Toby Sur. ..... Drlg. 450 ft.
O. O. Olford et al's No. 1 R. W. Bolding, 330 ft. E of SE cor. J. B. Cullen's 161-ac. tr., 300 ft. N of N line of Mrs. C. L. Brown's 20-ac. tr., W. W. O. Stanfield Sur. ..... S.D. 2,050 ft.
Geo. L. Pace et al's No. 1 T. G. and Eugene Barker, 710 ft. N of S line, 1,930 ft. W of E line, SE cor. 230-ac. tr., Victor Pedraso Sur. ..... Dry and abd. 4,016 ft.
O. H. Parkening's No. 1 T. J. Taylor, C, Blk. 32, W. H. Payne Sur. ..... S.D. 2,530 ft.
O. H. Parkening's No. 2 T. J. Taylor, C, J. C. Hawley Sur. ..... Location abd.
Ryan Consolidated Pet. Corp.'s No. 1 Dr. H. H. Key, 1,500 varas N of SE line, 600 varas E of SW line, of E. Carroll Sur. ..... Set 9-in. csg. 2,822 ft.
Seigel Bros. and Kelinson's No. 1 Taylor (no check), F. O'Neil Sur. ..... Location abd.
Thomas & Kinsey's No. 1 J. R. Watson, Thos. Iden Sur. Derrick.

MARION COUNTY

Gist, Claunch & Dodson's No. 1 Miller, 1,470 ft. E line, 725 ft. N line, SW cor. H. Fulgran H.R. Sur. ..... Rigging up.
Geo. Hindman et al's No. 1 F. V. Lindsey, 2,500 ft. S, most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. ..... S.D. 2,380 ft. (corrected depth).
Hindeman & Rhondo's No. 1 McGaughey, 1,547 ft. W, most northerly SW cor., 1,438 ft. N most northerly S line, W. J. Willis Sur. ..... Drlg. 3,864 ft.
P. E. Hussey's No. 1 A. A. Trammell, Chas. Lockhart Sur. ..... Junked and abd. 1,884 ft.
Shelton et al's No. 1 J. M. McNeal, 800 ft. S, 400 ft. W, NE cor. McNeal's 721-ac. tr., R. Fowler Sur. .... Making D.S. test 3,150 ft.

PANOLA COUNTY

Hoffer et al's No. 1 Cameron Lbr. Co., center 1,306-ac. tr. in W. M. A. LaGrove Sur. ..... Derrick.
Moses & Wallace's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur... Derrick.
Jeffus & Lee's No. 1 Latham, Wm. Rich Sur. ..... S.D; changing to heavy rig 550 ft.
J. L. Nelson et al's No. 1 J. W. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr. in Jas. Hanks Sur. ..... Moving in rig.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hessler, E. Hughhart Sur. .... S.D. 2,795 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur. .... S.D. 2,280 ft.

SHELBY COUNTY

L. M. Bradley's No. 1 Ashberry (no check), G. W. Mitchell Sur. ..... Drlg. sticky shale 2,950 ft.
E. L. Chapman's No. 1 Pickering Lbr. Co., C. E. Henry (headright) ..... Recmtd. 12½-in. surface csg; T.D. 3,580 ft.
Chapperell Oil Co.'s No. 2 Holt, Matthew Moore Sur. .. Arranging to resume drlg.

H. P. Glidden's No. 1 Pickering Lbr. Co., Jonas Harrison Sur., 300 ft. E of NW cor., 150 ft. S of N line at right angles Pickering 59-acre tract..... Location.
H. H. Gracey's No. 1 J. A. Morrison, 1,500 ft. N, 200 ft. E. SW cor. J. A. Morris' 109-ac. tr., Wm. English Sur. ..... S.D. for water 2,511 ft.
Wm. A. Stephens' No. 1 Foster & Billingsly, 150 ft. W of CEL Foster & Billingsly's 109-ac. tr., J. Bowlin Sur. Drlg. shale 1,540 ft.
T. A. Martin's No. 1 J. B. Bush, S 8° E, 2,000 ft. from NW cor. J. B. Bush's 77-ac. tr., thence E at right angles to said line 200 ft., Alfred Lindsey Sur. ..... Derrick.
Henry Mauilding's No. 1 Frost Lbr. Co., NE cor. Frost Lbr. Co.'s 80-ac. tr., A. D. Fountain Sur. ..... Changing rigs 1,880 ft.
George N. Pace's No. 1 E. H. Powers, western J. Timms Sur., 150 ft. E of W line, 200 ft. N of S line Powers 126-acre tract ..... Derrick.
Ridgeway et al's No. 1 Polley, Domingo Gonzales Sur., 2,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-acre tract ..... Derrick.
Schultz et al's No. 1 Hughes, 150 ft. SW cor. Hughes' 110-ac. tr., J. Clay Sur. ..... Repairing rig 2,640 ft.
Sloan Prospecting Co.'s No. 1 Sanford, approximately 300 ft. N and 200 ft. E, SW cor. B. Sanford 49-ac. tr. in M. M. Vann Sur. ..... S.D; laying water line 2,906 ft.
Sloan Prospecting Co.'s No. 1 Windham, H. English H.R.S. ..... Sidetracking 5 jts. 4½-in. liner; T.D. 3,399 ft.
C. H. Tautenhahn's No. 1 J. C. Bogard, 300 ft. S, 900 ft. E, NW cor. J. C. Bogard's 52-ac. tr., Thomas Baker Sur. ..... Began June 7; drlg. 20 ft.
Tenant et al's No. 1 J. Henry, C. Z. Walker Sur..... Derrick.

WILDCAT OPERATIONS IN MISSISSIPPI

CLAY COUNTY
(Cable tools)

Company, farm and location— Remarks:
Ohio Oil Co.'s No. 1 Cantrell, NE cor., Sec. 16-15-5 .... Drlg. sandy shale 4,110 ft.

HINDS COUNTY

Attkisson & Dyer's No. 1 Downing et al, SE NE, Sec. 27-6-1 ..... Drlg. 2,453 ft.
Howard Oil Co.'s No. 1 Jackson College, C NW NW, Sec. 9-5-1e ..... S.D. 74 ft.
Southern Pet. Co.'s No. 1 Wilson (was Tri-State O. & G. Co.'s), 320 ft. E, 240 ft. N, SW cor. SE NE, Sec. 28-6-1e ..... S.D. 20 ft; W.O.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keyes, C NW NE, Sec. 3-12-9 ..... S.D. for fuel 2,020 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D. 3,015 ft.
McAlpine et al's No. 1 Cowart, second hole, Sec. 3-12-19.. Drlg. 2,476 ft.

NOXUBEE COUNTY

Thompson & Donohue's No. 1 Donohue, Sec. 25-16n-17e.. Derrick.

RANKIN COUNTY

Attkisson & Dyer's No. 1 Valentour, 200 ft. S, 200 ft. E, NW cor., Sec. 18-5n-2e ..... Rigging up.
Grandstaff et al's No. 1 Carr, 2,730 ft. W, 550 ft. N, SE cor., Sec. 12-5n-1e ..... Completed June 2; estimated 35,000,000 ft. gas 2,419 ft.
Harding & Flint's No. 1 Webb, center Lot 32, Blk. B, East Jackson Place, Jackson City Subd., Sec. 12-5-1. S.D. funds 880 ft.
R. A. Moore et al's No. 1 Interior Lbr. Co., Sec. 28-6-1e.. S.D. 900 ft.
Cleve Love's No. 1 Muse, SE cor. SW SW, Sec. 32-7-4e.. S.D. 4,000 ft.
Square Deal O. & G. Co.'s No. 1 Spann, NW cor. SE NE, Sec. 13-5n-1e ..... Derrick.
Union Drlg. Co.'s No. 1 Pate Royalty Co., NW cor. Lot 11, Blk. F, E. Jackson Pl., First Addn., Sec. 13-5n-1e.. Derrick.

SCOTT COUNTY

M. U. Culley et al's No. 1 Owens, Sec. 2-8-9 ..... Derrick.

WARREN COUNTY

Eagle Bend O. & G. Co.'s No. 1 Kiger, SW cor. SW SE, Sec. 9-18-3 ..... Drlg. 1,827 ft.

WINSTON COUNTY

Miss. Drlg. Co.'s No. 1 Scarbrough, NW cor., Sec. 15-12-14 ..... Drlg. 3,196 ft.

YALOBUSHA COUNTY

Collett-Carter Oil Co.'s No. 2 Blackmur, 990 ft. W, 285 ft. N, C. Sec. 11-11-4 ..... S.D; changing drill line 3,237 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 29)

E, 760 ft. N, SW cor., Sec. 10-16-6e..... Began June 3; set 12½-in. 164 ft., 9-in. 940 ft.
United Carbon Co.'s No. 2 Cooper, 660 ft. N, 3,551 ft. E, SW cor., Sec. 13-16-6 ..... Set 12½-in. 181 ft., 8-in. 815 ft.

SABINE PARISH—ZWOLLE

Roy Baker's No. 1 Sabine Lbr. Co., Sec. 1-7-12..... Began June 5; set 10-in. 75 ft; drlg. 700 ft.
W. M. Coates' No. 1 Williams, NE cor., Sec. 23-7-11 .... Coring 2,655 ft.
W. M. Coates' No. 1 McNeely, NW cor. NE NW, Sec. 14-7-11 ..... Set 6-in. 2,384 ft; bailing to test 2,584 ft.
Hawkins et al's No. 1 Moran, Sec. 1-7-11 ..... 400 ft. oil in hole 2,620 ft; W.O. S.R.
O. A. Gautier et al's No. 1 Mischell, 330 ft. E, 150 ft. N, SW cor. SE NW, Sec. 30-8-13 ..... S.D. 2,260 ft.
Hawkins & Antoon's No. 1 Newton, Sec. 1-7-11 ..... Drlg. 2,200 ft.
Jordan Drlg. Co.'s No. 1 McCormick, Sec. 2-7-11..... Began June 5; set 10-in. 98 ft.
Zeke Lohman's No. 1 McCormick, 660 ft. E, 330 ft. N, SW cor. NE SW, Sec. 2-7-11 ..... Began June 6; set 10-in. 95 ft.
Loring Oil Co.'s No. 16 Bowman-Hicks, 640 ft. W, 200 ft. S of C, Sec. 3-7-12..... Derrick pattern.
Loring Oil Co.'s No. 17 Bowman-Hicks, 1,600 ft. S, 275 ft. W, NE cor., Sec. 16-7-12..... Derrick.
Lyons & Neely's No. 1 Duggan, NW SE, Sec. 14-7-11.... Location.
Lyons & Neely's No. 2 Byrd, Sec. 1-7-11 ..... Setting tubing and packer 2,480 ft.
L. K. McGuffin's No. 1 Bush, NW cor. NW SE, Sec. 1-7-11 ..... S.D. 400 ft.
Ben Merritt, tr.'s No. 2 Byrd, Sec. 1-7-11..... S.D. 88 ft.
George Pipes, tr.'s No. 1 Byrd, Sec. 1-7-11 ..... Bailing 2,438 ft.
Sabine Royalties Co., Inc.'s No. 1 Hill, 400 ft. S, 300 ft. E, NW cor, NE NE, Sec. 5-7-11 ..... W.O.S.R. 2,506 ft.
Sabine Prod. Co.'s No. 2 Pearce, 853 ft. N, 630 ft. W, SE cor. SE NW, Sec. 10-7-11 ..... Comp. June 7; flowing 25 bbls. 2,425 ft.
Sabine Royalties Co.'s No. 2 Hill, Sec. 32-8-11..... Began June 4; set 10-in. 90 ft; drlg. 1,350 ft.
Eddie Self's No. 1 Jacobs, Sec. 1-7-11..... Set 2-in. tubing and packer 2,472 ft.
A. F. Tarver's No. 1 Cutrer, 330 ft. S and E, NW cor., Sec. 12-7-11 ..... Set 6-in. 2,375 ft; tested dry 2,475 ft; arranging to deepen.
The Texas Co.'s No. 1 DeLatla et al, 1,070 ft. W, 990 ft. N, SE cor., Sec. 2-7-11 ..... Tested dry 2,426 ft; arranging to deepen.
Houston-Sabine Prod. Co.'s No. 1 Sabine Lbr. Co. (was Triangle Pet. Co.'s No. 2 Sabine Lbr. Co.), 330 ft. N and E, SW cor., Sec. 24-8-12 ..... Set 6-in. 2,238 ft.
J. C. Walton's No. 1 Sabine Lbr. Co., 300 ft. S, 300 ft. W, NE cor. NW, Sec. 11-7-12 ..... Dry and abd. 2,376 ft.

WEBSTER PARISH

Cassidy & Davis' No. 1 Nickerson, 300 ft. S, 300 ft. W, NE cor. SW, Sec. 29-23-10 ..... S.D. 150 ft.

ARKANSAS
UNION COUNTY—EL DORADO

Lion O. & R. Co.'s No. 9-A G. P. Hayes, 242 ft. S, 246 ft. W, NE cor. Lot 5, NE, Sec. 4-16-15 ..... Coring gumbo 3,970 ft.
Southern Prod. Co.'s No. 1 Wingfield, NE cor. SE NW, Sec. 16-19-15 ..... S.D. 2,603 ft.

UNION COUNTY—URBANA

Marine Oil Co.'s No. 1 Winn est., 330 ft. S and E, NE cor. S½ NW, Sec. 11-18-13 ..... T.A. 3,586 ft.
Marine Oil Co.'s No. 1 Union Sawmill Co., 330 ft. N
Marine Oil Co.'s No. 2-E Thompson, 330 ft. N, 330 ft. E, SW cor., NE NE, Sec. 10-18-13 ..... Location.
Wilson & Chapman's No. 1 Adkins, 330 ft. N and W, SE cor. SW NE, Sec. 3-18-13 ..... Began June 1; drlg. shale 1,900 ft.

EAST TEXAS
HARRISON COUNTY

Calatex O. & G. Co.'s No. 6 Argus, 755 ft. N, 699 ft. W, Mile Post 27, in J. Womack Sur. ..... Location.

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 14 Werner, 341 ft. S, 300 ft. W, NE cor. Werner 74-ac. tr., Ben C. Jordon Sur. .. Drlg. hard lime 3,162 ft.
Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur. .... Drlg. hard lime 2,692 ft. (corrected depth).
Dillon & Bradham's (was W. G. Banks et al's) No. 1 C. O. Baldwin, 1,395 ft. W, 1,362 ft. S, NE cor. Baldwin 200 ac. in Hampton West Sur. ..... S.D. 1,555 ft.
S. E. Bell et al's No. 1 Burnett Lbr. Co., C, S. B. Hendricks Sur. ..... Dry and abd. 3,335 ft.
United Prod. Corp.'s No. 17 Steele, 1,320 ft. N, 660 ft. W, SE cor. C. D. Steele lse., in B. C. Jordan Sur. .... Location.
United Prod. Corp.'s No. 10 Warner, 338 ft. N, 2,467 ft. W, SW cor. Thos. Cox Sur. in Ben Jordon Sur. ..... Drlg. hard lime 3,833 ft.
Southwestern O. & G. Co.'s No. 1 E. R. Vinson, 3,005 ft. S, 1,001 ft. W, NE cor. C. T. Anderson Sur. ..... S.D. 2,650 ft.

MISSISSIPPI
HINDS COUNTY

Cleve Love et al's No. 2 Ridgeway-McGhee, SE cor. NW, Sec. 2-5-1e ..... Derrick.

RANKIN COUNTY

Miss. G. & F. Co.'s No. 1 Hanna, SW cor. SW NE, Sec. 14-5-1e ..... Abd. location.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 25)

Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2 ..... Cleaning out 3,693 ft.
Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w ..... Rig on ground.

KIOWA COUNTY

Christian's No. 1 Jones, NE SE Sec. 8-7-18w ..... Drlg. 425 ft.

LATIMER COUNTY

P. English's No. 1 Unknown, NW SE Sec. 16-6-19 ..... Shut down 1,543 ft.

LE FLORE COUNTY

Sooner Oil & Gas' No. 1 Clyman, C S half NE NW Sec. 28-7-26 ..... Completed 1,700-1,803 ft.; 750,000 ft. gas.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Drlg. 5,712 ft.

MURRAY COUNTY

C. R. Williams et al's No. 1 Williams, C NE NE Sec. 21-1-4 ..... Shut down 808 ft.

MUSKOGEE COUNTY

H. E. Dowd's No. 1 Hembree, C NW NE Sec. 23-10-19 ..Abandoned 1,257 ft.
Rebold's No. 1 Miller, SE NE NE Sec. 32-13-19 ..... Abandoned.
Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 .... Shut down 1,011 ft.

OKFUSKEE COUNTY

E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9 ..... Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10.. Shut down 3,690 ft.

OKLAHOMA COUNTY

Citizens Oil Co.'s No. 1 Sage Barber, NE cor. Sec. 21-11-3w ..... Shut down 1,200 ft.
L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w ..... Shut down 5,515 ft.
J. F. Cuniff, trustee's No. 1 Church Land, NE NW SE Sec. 17-12-4w ..... Shut down 6,700 ft.

PAWNEE COUNTY

Comar's No. 1 Babstick, SW SE SE Sec. 18-22-5 ..... Abandoned 3,408 ft.
Rookstool's No. 1 Wylie, NW NE SW Sec. 6-20-5 ..... Shut down 1,950 ft
Sperry et al's No. 1 Mullrap, SE SW Sec. 2-22-5 ..... Drlg. 3,190 ft.
Cochran et al's No. 1 Green, NE cor. SW Sec. 15-23-5 ... Rig.

PITTSBURG COUNTY

J. Morrison's No. 1 Fowler, NE SE Sec. 13-7-17 ..... Rig.
C. Kennedy's No. 1 Travis, C SW NE Sec. 15-7-14 ..... Rig.
C. Canady's No. 1 Jones, NW cor. Sec. 14-8-14 ..... Rig.

POTTAWATOMIE COUNTY

Droppleman et al's No. 1 Jones, SE NW Sec. 21-8-3 .... Drlg. 4,878 ft.; show oil.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW Sec. 23-12-24w ..... Drlg. 4,935 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w ..... Fishing 2,956 ft.; show oil.

SEMINOLE COUNTY

Sunray Oil Co.'s No. 1 Sunray, NW SE Sec. 35-5-5 ..... Location.

STEPHENS COUNTY

Ross Southerd's No. 1 McKinney, NE cor. Sec. 25-1-5w .. Shut down 1,062 ft.

WASHITA COUNTY

Cooper & Terhune's No. 1 Blocker, NW cor. Sec. 19-8-19w. Shut down 1,875 ft.
Burns & Prince's No. 1 Deck, SW cor. Sec. 21-8-18 ..... Shut down 1,069 ft.
Petroleum Holdings, Inc.'s No. 1 Music, NW cor. Sec. 10-9-20w ..... Abandoned 280 ft.

OKLAHOMA PANHANDLE
TEXAS COUNTY

Western Prod. Co.'s No. 1 Gable, C NE Sec. 24-4-13 .... Drlg. 621 ft.
Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-1E .. Drlg. 4,700 ft.

SOUTHERN OKLAHOMA
ATOKA COUNTY

Croxton & Bryant's No. 1 Miller, NW SE NE Sec. 9-1s-14. Shut down 670 ft.; completed.
Croxton & Bryant's No. 3 Miller, SW NE NE Sec. 9-1s-14. Completed 3 bbls. 178-88 ft.
R. P. Whelan et al's No. 1 Howard, NW SE NW Sec. 6-4s-11 ..... Shut down 580 ft.
Brookshire's No. 1 R. W. Rowland, NW NE SE Sec. 18-3s-10 ..... Shut down 400 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW Sec. 7-7-10.. T. D. 650 ft.
Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9 ..... T. D. 740 ft.; plugged back to 450-80 ft.

JEFFERSON COUNTY

Smith's No. 1 McCarty, SE NW NE Sec. 18-4s-5w ..... Location.
C. V. Chenault et al's No. 1 Grogan, SW NE SE Sec. 15-7s-6w ..... Shut down 1,420 ft.

LOVE COUNTY

Batson & Sterrette's No. 1 Dillard, SE NE NW Sec. 25-6s-3 ..... Show 5 bbls. 1,585-96 ft.; T. D. 4,433 ft.; P. B. to 1,604 ft.; pumping; showing 5 bbls.

MARSHALL COUNTY

McCrory et al's No. 1 Little, NW SW Sec. 30-7s-6 ..... Bailing 10 bbls. of oil 495-97 ft recemented csg.; pumped 110 bbls. 30 hrs.
D. H. Curry's No. 1 Ward, NE SE SW Sec. 15-5s-6 .... Shut down 2,310 ft.

McCURTAIN COUNTY

The Oil Journal's No. 1 Parks, C NE NW Sec. 9-4s-23 ... Shut down 50 ft.
Stewart's No. 1 Patterson, C SE SE Sec. 7-8s-24 ..... Shut down 400 ft.

just another

The Shaffer Flow Beans are outlined and the two Warren Control Heads are seen in the center of the photo.

SHAFFER HOOK-UP AT KETTLEMAN HILLS

Six Shaffer Flow Beans and a pair of Warren Control Heads protect another famous well at Kettleman Hills. Every drilling well in Kettleman Hills is using Shaffer equipment because it provides the extra STRENGTH and SAFETY demanded by these high pressure wells. In oil fields, all over the world, wherever difficult drilling conditions are encountered you will find Shaffer equipment. Write for descriptive literature.

We have been making equipment which meets high pressure needs for over two years. Our experience, in making equipment which is tested from 2000 lbs. to 5000 lbs. for such fields as Kettleman Hills and Belridge, is at your disposal.

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BREA, CALIFORNIA

OKLAHOMA CITY—Fluid Packed Pump Co., Mid-Continent

HOUSTON—Robt. J. Miller Co.
FOREIGN—Oil Well Supply Co.

SOUTHWEST TEXAS FIELDS

(Continued from Page 32)

tered in Real and western Kerr 40 miles west.

Evans & Gant, who drilled the No. 1 Love which first attracted attention to that territory by making a small well at 3,391 feet, were scheduled to spud their No. 2 Love this week. It is located a mile south of the No. 1. The same operators' No. 1 Seiker-Mears is now down 2,500 feet and the No. 1 Estelle Young has spudded in and it and the Herbert Oil Co. test in the south central part of the county are each down a few hundred feet. In addition the No. 1 Haby in Real County is drilling and down about 2,100 feet. More tests in that district are making hole at this time than ever before. This was practically virgin territory until recently but with all of these tests going down when the logs become available the industry will for the first time have some subsurface information on that country. The tests thus far have proven that there is a good thickness of sand in one horizon of the Pennsylvania and there are several sands and there have been showings of oil and gas. The No. 1 Auld is still waiting on orders with a showing of gas at 4,007 feet and with about 200 feet of good sand.

In Blanco County which is above the fault and considerably east of the plateau area tests have been standing still but deals have moved. The leases on the Adams & Lyles block have been cancelled and new leases were taken out by Harly Sitton who had taken over the Adams & Lyles test on the Ludders farm standing at 970 feet. Sitton bought the rig also and operations are expected to start up on that test before a great while.

One test in Kendall County recently abandoned has been reinstated. The Perkins and others' No. 2 Lawhon. In the deal the leases were all transferred to interests in San Antonio. The No. 1 Lawhon was lost before it had got down but a few hundred feet and the second was abandoned at 281 feet. The new interests expect to start up soon. The rig is still standing over the hole.

Miscellaneous Operations

Camp and others in southern McMullen County abandoned the No. 1 Murphy in salt water at 2,222 feet. This is the second test drilled on the block of leases and the operator is going to drill another test. The No. 1 Murphy got quite a lot of gas but too much salt water.

Practically all the activity in the Laredo district at this time is limited to Zapata County. In Webb County there are three propositions listed and two are locations only. In Starr County three tests and all three shut down. In Jim Hogg County two tests and both shut down and in Duval County four tests. One is changing rigs. S. J. Carpenter is making hole a mile east of the Cole Field. Humble Oil & Refining Co.'s No. 1 Kohler in the Kohler Field is down 6,350 feet, the deepest hole ever drilled in the district, and continuing to make hole, and J. W. O'Byrne has resumed drilling on his No. 1 Weil Brothers and is now at 2,100 feet.

Zapata County has led the district in activity for months but the past week developed nothing out of the ordinary.

ROCKY MOUNTAIN AREA

(Continued from Page 36)

string. The hole is bottomed in a sand and as much as a gallon of crude has been taken from the bailer.

Adams County

Nettie M. Slatt's No. 1 Hills, SE cor., Section 27-3s-64, Watkins district, is drilling at 3,630 feet and the bailer comes up with a slight coating of oil. It also is making a nice show of gas.

Jefferson County

Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor., Section 24-4s-69, near Denver, is shut down for repairs at 3,920 feet.

Park County

South Park Oil & Gas Co.'s No. 1 Esche, SE cor. NW, Section 5-9s-76, Muleshoe Dome, is shut down at 2,360 feet to run 8¼-inch to make a formation shutoff. South Park Oil Co.'s No. 1 Milligan, NE cor. SE, Section 13-8s-76, Jefferson district, is bottomed at 2,015 feet and is drying up hole after drilling out plug. The 8¼-inch was cemented at this depth.

Baca County

A. R. Jones Oil & Operating Co.'s No. 1 Boice Cattle, NW NE, Section 22-34-42, Miles Camp Dome, is bottomed at 4,965 feet and sidetracking 400 feet of 4¾-inch.

Archuleta County

Standard Oil Co. of Colorado's No. 1 Fitzhugh, NW SE SW, Section 34-33n-1e, Chromo Dome, is bottomed at 502 feet and moving in equipment to resume.

Montrose County

Uncompahgre Oil & Gas Co.'s No. 2 Vandemark, SW cor., Section 27-50n-10w, Olathe district, is drilling below 980 feet. First objective is expected at 1,440 feet and the second, the Sundance, at 1,940 feet.

Rio Blanco County

California Co.'s No. 1 California-Raven, NW SE, Section 30-2n-102, Rangely, the deep test to the Pennsylvanian, shut down after spudding to complete rigging up. Magnolia Petroleum Co.'s No. 1 Maddock, C NW SE, Section 9-2s-96, Piceance Creek, commenced spudding on June 8 in a 20-inch hole for a test of the Green River formation of Tertiary age.

Larimer County

Vogel-Raddatz Corp.'s No. 1 Red Rock School, NE cor., Section 20-4n-69, Berthoud Dome, had a show of gas at around 100 feet that burned a flame several feet high.

UTAH

An encouraging report was received from Utah this week when the Utah Southern Oil Co.'s No. 1 Balsey, C NE NE, Section 31-23-21, Salt Valley Dome, encountered a good show of oil. It went out of the salt into black and gray shale at 3,350 feet and had good shows of oil in conglomerate at 3,397 and 3,415 feet and in black sandy lime at 3,432 feet. Total depth is 3,500 feet and the well is shut down to overhaul the engine preliminary to making a bailer test of the show. The oil is standing 600 feet in the hole. It is a green crude of paraffin base and tested 36.8 degrees gravity. The Utah Southern has made a long and persistent effort to find oil in eastern and southeastern Utah and has never lost faith in that area since the major companies pulled out several years ago. Oil was found in lime and shale imbedded in salt on several of the Colorado River structures below Moab, but the salt beds were found to be in enormously thick deposits and the source of the crude was never located. The Utah Southern then went into the Salt Valley and drilled its No. 1 King 5 miles to the northwest of the present well to test the theory that oil might be found on the flank of the structure. It then spotted No. 1 Balsey on the top of the dome and appears to be having better success. It is a joint operation with the Mountain States Petroleum Co. and has for its objective the lower Pennsylvanian and Ordovician formations below the salt beds. The shows of oil were found at just about the depth they were expected. The location is only 5 miles from the Denver & Rio Grande Western Railroad and a ready market for the structure if commercial production is found is the Utah Oil Refining Co.'s plant at Salt Lake City.

Home Oil Co.'s No. 1, NE NE, Section 4-19-25 (H. H. Basher), Harley Dome, Grand County, which had a flow of 10,000,000 feet of noninflammable gas at 600 feet in 1926 and which ran out of hole at 802 feet, is being cleaned out in an effort to restore the gas flow in view of the present activity in producing carbon dioxide gas for manufacturing dry ice. It was said at the time this gas showed the highest helium content of any gas found in the United States, but nothing could be done about it as the helium on government land is all reserved. A little later Charles E. Orchard and others drilled No. 2 close to No. 1 and abandoned it at 1,675 feet after going through the Dakotas and probably the Sundance. It also had the noninflammable gas which was killed as the drillers were after oil.

WYOMING

Natrona County

Reports from the Midwest Refining Co.'s No. 11 Middy, C NE NE, Section 23-35n-79, Midway Dome, between Casper and Salt Creek, were more encouraging than for some time. At 5,215 feet this well had a good show of oil in the second Wall Creek sand and was on production for several months. The production gradually dropped and after being shot it made around 50 bbls. a day. Drilling was then resumed after the Wall Creeks were cemented off and the hole was carried to 6,685 feet and tested all horizons down to and through the Sundance. The Muddy sand, which was topped at 5,967 feet, showed some saturation and it was decided to plug back the hole and test that horizon. It was plugged back to 5,994 feet and after standardizing, cleaning out began. After bailing down 2,600 feet of water the fluid began rising and then the well started flowing. It flowed for a little more than an hour when a cave at 5,915-25 feet shut off the oil. It was again cleaned out and the well flowed at the rate of 40 bbls. an hour, there being a little water with the oil. A plug will be set in an effort to shut off the water and the prospects for a good well are encouraging.

Park County

Midwest Refining Co.'s No. 24 Rosenberg, NE SE NE, Section 26-58-98, Frannie Dome, is drilling at 360 feet in black shale, and Grebo Royalties, Inc.'s No. 1 McGrath, NE cor. SE, Section 3-47-100, Little Buffalo Basin, is shut down at 836 feet after cementing 12½-inch, validation having been completed.

Big Horn County

F. T. Griffith, trustee's No. 1, SE NE SE, Section 29-56-97, Garland Dome, is bottomed at 3,500 feet in the top of the Embar, where a flow of 40,000,000 feet of gas was encountered. The hole is being lubricated to kill the gas so drilling to the oil horizon in the Madison lime can continue. The location is half a mile north of the Ohio Oil Co.'s No. 1 Easton, the discovery well for oil in the Madison lime. The Griffith well, which was started by S. C. Fertig, is on an 80-acre tract owned by the Montana-Wyoming Oil Co.

Ohio Oil Co.'s No. 1 Smith, NE SE SE, Section 33-56-97, is cleaning out at a total depth of 1,705 feet, where it has a show of gas. Utah Southern Oil Co.'s No. 3 Government, NE cor. SW, Section 29-56-97, is drilling at 3,830 feet in the Madison lime.

Washakie County

Ohio Oil Co.'s No. 1 Strothers, SW SE NW, Section 19-45-92, Neiber Dome, is drilling at 5,460 feet. The Frontier is expected at around 6,600 feet and the hole will be carried to 7,500 feet, if necessary. It is a rotary operation.

Fremont County

Producers & Refiners Corp.'s No. 2, NW SE NW, Section 33-34-92, Muskrat Dome, is bottomed at 5 573 feet where it had water in what is supposed to be the Muddy sand, and is cleaning out at 5,354 feet. The 10-inch was cemented at 4,906 feet. Same company's No. 10, SE NW SW, Section 14-32-95, Big Sand Draw, is standing at a total depth of 5,345 feet with the 8¼-inch cemented at 5,169 feet.

Carbon County

Producers & Refiners' No. 1, SW cor., Section 19-20-83, Overland Dome, is bottomed at 505 feet and fishing for tools, and its No. 1, NE SE NE, Section 7-25-86, South Ferris, is drilling at 2,226 feet in sandy shale with the 6⅝-inch at 2,142 feet. Midwest Refining Co.'s No. 27 Union Pacific, NW SE SE, Section 11-20-81, Elk Mountain, is drilling at 2,570 feet on rock and iron after filling back to straighten.

Sweetwater County

Mountain Fuel Supply Co.'s No. 1 Cappers, SW cor. NE, Section 2-19-104, North Baxter Basin, is still being tested from the top of the Sundance at a total depth of 3,660 feet. It is making about one-half a barrel of oil, some water and considerable gas.

Weston County

Tom Don's No. 2, NW cor. SE, Section 23-46-46, Osage district, showed some oil in sand at 1,697-1,700 feet, but drilled in Bentonite and shale to 1,800 feet and was abandoned as a dry hole. Chadron-Osage Oil Co.'s No. 13, NE cor. SW, Section 14-46-64, has rig on location. West Osage Oil Co.'s No. 1, SE NE NE, Section 15-46-64, is bottomed at 2,067 feet and pulling casing to replace a pinched show. It is showing some oil. This operation formerly was carried as Clark and others. Wytex Oil Co.'s No. 5 Logan McCullough, SW NE NE, Section 23-46-64, is drilling at 1,600 feet.

Niobrara County

Indian Petroleum Co.'s No. 1, NE, Section 7-35-65, Lance Creek, which is being deepened to the Sundance at 4,200 feet, is drilling at 3,948 feet.

MONTANA

Carbon County

Ohio Oil Co.'s No. 1 Montana Industrial, SE SW NE, Section 11-7s-21, Dry Creek Dome, is drilling in shale at 5,528 feet, supposedly the shale over the Lakota sand. It is through the Dakota which had a show of oil and gas, but neither in commercial quantities. This well is an offset on the north to Ohio's No. 2 Northern Pacific, the discovery well in the Dakota formation, which came in last year at a total depth of 5,510 feet, and flowed at the rate of 2,300 bbls. of 52 gravity oil in a 16-hour test. This well subsequently declined and was deepened to 5,516 feet and responded with an increase to 1,200 bbls. daily and then dropped back to 800 bbls. The top of the Dakota was at 5,412 feet in this test. No. 1 Montana Industrial appears to have been drilled right up against a fault which accounts for the absence of oil in the Dakota.

Three other wells drilling on the dome are expected to yield additional information on structural conditions at depth. Ohio's No. 1 Chapman, C SW SW, Section 2-7-21, is bottomed at 445 feet and fishing for bit and its No. 1 Souders, C SW SE, Section 2-7-21, is drilling at 3,863 feet. Carbon Oil & Gas Co.'s No. 1 Armstrong, SW cor. NW, Section 7-7-22, one-third of a mile to the east of the Montana Industrial well, is bottomed at 2,595 feet and rigging up rotary.

Glacier County

L. B. O'Neil, as trustee for the Montana Power Co., which recently acquired the interests of O'Neil and associates in the gas holdings in the Cut Bank Field, is starting three more wells, which makes seven operations under way. These wells are being drilled to develop a gas supply for the Montana Power Co.'s pipe line to Helena, Butte and Anaconda on which work is starting. Cut Bank has been overrun with men looking for work on the line; the supply far exceeding the demand.

The three new locations are: No. 1 State, C SW SW, Section 36-36n-5w; No. 1 Hughes, C NE NE, Section 3-35-5; No. 1 Berger, C SE NE, Section 2-35n-5w. The four wells drilling are: No. 1 Schneider, C NE SE, Section 32-36n-5w, drilling at 500 feet; No. 1 State, C SE NW, Section 34-36-5, drilling at 400 feet, water at 50 feet; No. 1 State, C NW NW, Section 33-36n-5w, drilling at 550 feet in a wet hole; No. 1 Taylor & Spikes, C SW SW, Section 35-36n-5w, drilling at 625 feet.

Fulton Petroleum Co.'s No. 1 Blackfeet, SW NE NE, Section 28-36n-12w, Milk River district, is drilling below 1,850 feet and appears to be below the cavey ground which gave so much trouble.

Teton County

The California Co.'s No. 1 Sullivan, NW NE NW, Section 34-27-7w, Bynum-Pendroy district, is drilling at 400 feet, and Earl Oil Corp., Ltd.'s No. 1 Gad, SE cor. NE, Section 22-2n-8w, Sun River district, is drilling at 2,550 feet near the top of the Kootenai formation.

Liberty County

Northland Oil & Gas Co.'s No. 1 Yurman, C SE SW, Section 32-33-5e, Liberty Dome, is shut down at 3,700 feet for equipment. It was reported through the Madison lime at 3,610 feet. G. G. Howard and others' No. 1 Lange, C SE SW, Section 7-36-6e, Bear's Den, is rigged and ready to spud, and People's Oil & Gas Co.'s No. 1 First National Bank, C SE NW, Section 17-36-6e, is rigging up.

Toole County

Liquid Gold Oil Co.'s No. 1 Roberts, C NW NE, Section 25-36-1e, Barthelote district, is shut down at 2,500 feet waiting for 5-inch casing to shut off water encountered at 2,480 feet. The A-1 Petroleum Co.'s No. 1 Barthelote, SW SE NE, Section 24-36-1e, was abandoned at 1,585 feet, where it encountered water.

(Continued on Page 114)

Braun

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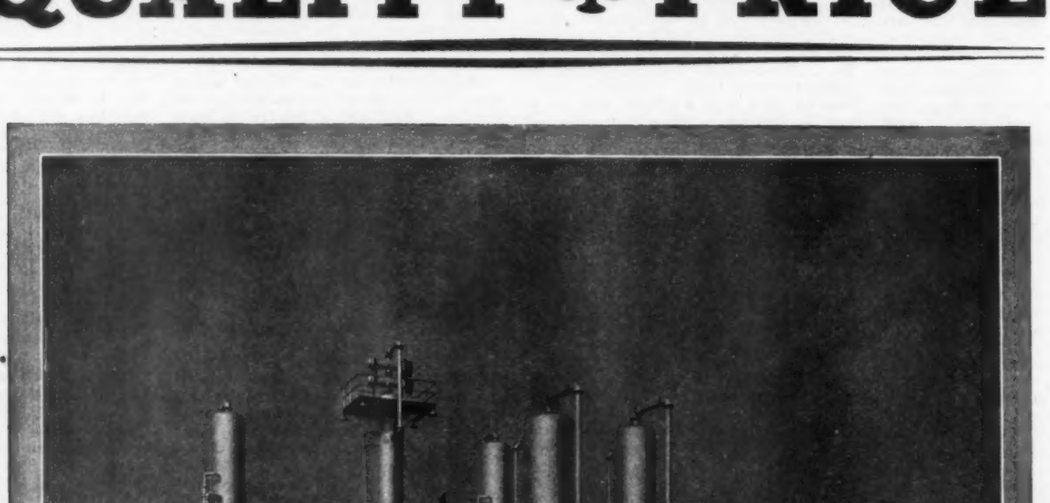

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Brief Items for Petroleum Refiners

Sinclair Company Plans to Rebuild Fort Worth Plant

The Sinclair Refining Co. is making preparations to rebuild the refinery at Fort Worth, Tex., which the company secured last year when it took over the properties of the Pierce Oil Corp. The refinery, which has not been operated for approximately 10 years, had a rated capacity at the time it was shut down of 10,000 bbls. daily. Its operation was confined to skimming.

The Sinclair company is also considering the construction of a skimming plant in East Texas where the company has large production with undeveloped leases. The plant probably will be built at either Longview or Henderson.

It is understood that very little of the old Pierce equipment will be used in rebuilding the refinery at Fort Worth. The Pierce plant had shell still distillation. The new plant will have skimming and cracking. Work on the plant is expected to start next month.

The Sinclair-Texas Pipe Line Co. is building a 12-inch line from Gregg and Rusk counties in East Texas to Teague station, where it will connect to a line of the Prairie Pipe Line Co. extending north and south. The line runs west of Fort Worth at Weatherford. By building a lateral line at this point, the East Texas crude oil will be made available to the Fort Worth refinery.

It has been expected for some time that the Sinclair company would either rebuild the Fort Worth refinery or construct a new refinery at some other point. The Sinclair distribution in Texas, most of which was acquired from the Pierce corporation, covers practically the entire State. It has a large refinery at Houston, but this plant cannot conveniently serve except in the South Texas area. The company, due to this situation, has been buying its products from other refiners.

HOLMES RESIGNS FROM REFINING COMMITTEE

Resignation of R. C. Holmes, The Texas Company, New York, as vice president for refining and chairman of the general committee of the American Petroleum Institute's Division of Refining has been accepted by the institute's board of directors. W. R. Boyd, Jr., executive vice president of the institute and vice chairman of the committee, will take over the duties of the office pending election of a successor to Mr. Holmes, which probably will be held at the next meeting of the board.

PLANT IN KENTUCKY

At a meeting of producers and royalty owners of Warren and Allen Counties, Kentucky, last week, the building of a small skimming plant at Bowling Green, Ky., was considered. A total of $8,250 was reported to have been subscribed toward construction of the plant. It was estimated that a plant to handle 600 bbls. daily could be built for $40,000. Wells in that area have been shut down due to a lack of outside connections.

DOUGLAS HOOKER ADVANCED

OLEAN, N. Y., June 12.—Douglas Hooker has been appointed assistant superintendent of the Paulsboro, Pa., plant of the Vacuum Oil Co. For the past two years he has been associated with the Vacuum company in its main plant here and previously had been identified with the Standard Oil Co. of California.

NOT TO USE "REFINING" IN SELLING PRODUCTS

WASHINGTON, D. C., June 12.—A woman engaged in the sale and distribution of lubricating oils, signed a stipulation with the Federal Trade Commission agreeing to delete the word "Refining" from her trade name in advertising, labeling and selling her products.

She will not use the word either alone or in combination with other words, or in any way which may deceive buyers into the belief that she owns, operates, or controls a refinery wherein the products she sells and distributes are refined.

Use of the word "Castor" either independently or in connection with the word "oil" or other words in advertising or labeling her product so as to imply that it is made of or contains castor oil in substantial quantity, when such is not true, will also be discontinued.

Advertising an oil product as a scientific blend of castor and mineral or other oil, when such is not the fact, and exaggerated representations respecting results to be obtained from use of this product, will no longer be indulged in by the respondent.

FILE PIPE LINE RATES ON GASOLINE MOVEMENT

The Great Lakes Pipe Line Co. and the Phillips Petroleum Co. have filed applications with the Kansas Public Service Commission covering rates on gasoline shipments by pipe line. A rate of 53 cents per barrel on gasoline from Eldorado, Kans., to Kansas City, Mo., has been approved. This rate is for delivery in Kansas City. For gasoline which is to be reshipped from Kansas City in tank cars to nearby points, the rate is 18 cents. This is in line with the policy of making the pipe line rates as near as possible on a parity with the railroad rates to the same points.

The companies asked for proportional rates from Eldorado through Kansas City to Leavenworth, Lansing and other points in northeast Kansas. This gasoline will be shipped by pipe line to Kansas City and then by rail to the consuming points.

The Great Lakes system which starts at Oklahoma refineries has a connecting line to the Eldorado, Kans., refinery of the Skelly Oil Co. Construction of the Eldorado connection has been authorized. The Phillips line starts at Borger, Tex., and ends at St. Louis. It is planned to connect the Great Lakes and Phillips lines so that the facilities of both will be available to refiners at several points.

GULF EXTENDS MARKETS IN MICHIGAN AND OHIO

MUSKEGON, Mich., June 15.—Gulf Refining Co. has entered western Michigan with its program of general expansion in retail outlets throughout Michigan and Indiana.

Gulf gasoline and other petroleum products went on sale here today at three stations including one connected with a new bulk storage plant just erected to serve the territory covering about 40 miles north and south of Muskegon.

Three stations north of Muskegon also will begin the sale of Gulf products within a few days and five other stations in Muskegon are contemplating making a contract with the company. Gulf representatives are covering the entire State where it is the aim of the company to establish at least one station in every city.

Gulf entered Detroit, Mich., several months ago with products from its 14,000-bbl. plant at Toledo, Ohio, and is now preparing to cover the entire State. New stations will be handling Gulf products in Grand Rapids, second largest city in the State, next week.

NICARAGUA TO FORM MARKETING MONOPOLY

NEW YORK, June 15.—Creation of a government petroleum monopoly in Nicaragua is expected to result in the early exclusion of the West India Oil Co. from that country, according to reports from Managua.

West India Oil Co., subsidiary of Standard Oil Co. (New Jersey) has been operating in Nicaragua for the past 15 years.

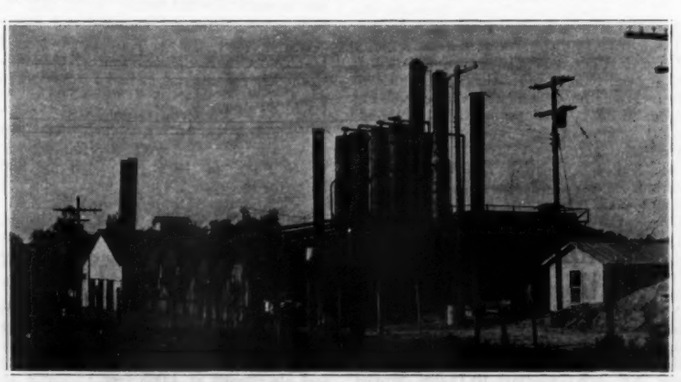
Details of the nationalization of Nicaragua's oil industry have not yet been received at headquarters of the New Jersey company here.

Nicaragua's creation of an oil monopoly, which will control all petroleum sales in that country, is a financial measure, it is understood, and it is considered possible that the West India Oil Co., which also operates a refinery, will share in some manner in the petroleum business in Nicaragua through co-operation with the monopoly.

PARKER ON CODE COMMITTEE

Announcement has been made of the appointment of Raymond M. Parker, Jr., Richfield Oil Corp. of New York, New York, as a member of the Eastern Regional Code Committee.

SHELL STILL DISTILLATION AT EAST TEXAS REFINERY



Skimming plant near Henderson, Tex., belonging to Beacon Oil & Refining Co. The plant, which has been in operation for several weeks, has a capacity of 4,000 bbls. daily.

Revise Valuation Gasoline Imported For Canadian Use

WASHINGTON, D. C., June 12.—Valuations on refined gasoline, for import duty purposes, were established under a Canadian appraiser's bulletin dated June 5, 1931, superceding values formerly established, as follows:

Pennsylvania, New York and district, which includes Atlantic Seaboard, 6.672 cents per U. S. wine gallon; Detroit, Cleveland and district, 7.285 cents; Chicago and district, 6.185 cents; Mid-Continent, which includes Oklahoma, Kansas, part of Missouri, part of Arkansas, and North Texas, 4.034 cents; South Texas, Louisiana and district, 5.585 cents; Wyoming and district, 4.035 cents; Montana and district, 7.035 cents.

These prices are based on current prices of crude oil in different fields and will be adjusted as crude prices change. If refined gasoline is sold in Canada at lower prices dumping duty will be applied equal to the difference between the fixed values and such lower prices. The dumping duty will not exceed 50 per cent of the fixed values should the difference be greater than that. The regular import duty on refined gasoline is 2½ cents per Imperial gallon, and is not affected by the above minimum values.—C. E. K.

PURCHASING MORE CRUDE IN WICHITA FALLS AREA

WICHITA FALLS, Tex., June 12.—Due to the fact that refiners in this area are increasing their crude oil runs to stills, producers will have additional outlets for crude oil. The Texas Company has transferred to the Waggoner Refining Co. of Electra, a total of 3,500 bbls. of oil from its leases in Wilbarger County. This crude oil will be replaced by The Thexas Company making new connections in Young, Archer and Wichita Counties.

The Continental Oil Co. of Texas which operates a refinery here, also announced that it would increase its purchases of crude oil from wells connected to its pipe line gathering system in this territory. The company has been running 2½ bbls. per well and this will be increased to 4 bbls.

The Olney Pool which has been shut down due to a lack of outlets will be connected to The Texas Company pipe line system.

OPPOSE SPANISH CONTRACT

NEW YORK, June 13.—Considerable criticism has been aroused in Spain by the awarding of the Spanish Petroleum Monopoly contract to the Soviet, according to advices from Madrid this week, and there is a strong possibility that the contract will be modified to permit of a larger participation in Spain's oil business by American companies.

The sharp drop in the Spanish peseta in foreign exchange markets, coupled with the recent widespread Communist riots in that country, has aroused reactionary sentiment among the Spanish public, it is stated, and the foreign minister of the new Spanish government is reported planning to open negotiations with American oil companies.

A. H. BLACKALL RESIGNS

A. H. Blackall has resigned as manager of wholesale and jobber sales for the Marathon Oil Co., Tulsa. Before joining the Marathon sales force he was connected with the marketing department of the Marland Refining Co. and is well known in market circles of the Southwest and Middle West.

OKLAHOMA FIELDS

(Continued from Page 25)

mately 3,500 feet. The company will move in another rig for No. 2 Sumner in the SE cor. NW Section 4-20-1w. Same company's No. 1 Hoffman, SW cor. SE Section 16-21-2w, was drilling on iron at 4,900 feet.

Southern Operations

In the Tatums Pool in Carter County several wells are expected to be completed. Carter Oil Co.'s No. 2 Robb, SW cor. NW, Section 19-1s-2w, on the east side of the field, was coring sand at 1,768-1,863 feet, with a showing of oil. Frank Gouin and the K. D. Oil Co.'s No. 1 Burton, C SW NW, Section 30-1s-2w, was shut down for water at 2,147 feet. Trevlyn Oil Co.'s No. 1 Ratliff, NE cor. NW SW, Section 19-1s-2w, was shut down at 1,300 feet and may cement to remedy lost circulation.

Two tests were drilling in Stephens County, in wildcat territory. Paul Turner and others' No. 1 Andrews, NW cor. SW SW, Section 5-2s-7w, was drilling at 2,875 feet with nothing showing on the last report. The contract depth of the test is 3,000 feet and it may be abandoned at that depth if production is not found.

H. J. Brown and K. D. Drilling Co.'s No. 1 Hightower, SW cor. SE NE, Section 15-3s-5w, was drilling at 350 feet. It is located near the shallow gas field southwest of Loco.

Crane and Rankin's No. 1 Adkins, NE cor. SE, Section 14-1-9w, a wildcat north of the Oil City Pool, was shut down at 3,265 feet. R. Southard and others' No. 1 McKinney, NE cor., Section 25-1-8w, a wildcat, was shut down at 1,063 feet.

Carter Acquires Big Blocks

During the week two blocks of acreage in the western part of the State were acquired by the Carter Oil Co. Roy Johnson assigned a block of approximately 15,000 acres in the central part of Roger Mills County, north of the townsite of Cheyenne. The block lies in Townships 14-23w and 14-24w. Part of the acreage has been core drilled. The other block is located in the northeastern part of Beckham County. It has approximately 15,000 acres and lies in Townships 12-21w, 12-22w, 11-21w and 11-22w. It is believed these blocks bring to a close the only active leasing at the present time in the western part of the State.

In Blaine County, the Washoma Petroleum Co.'s No. 1 Phillips, C SW NE, Section 12-19-10w, was shut down at 5,502 feet. The contract depth of the test was 5,500 feet.

In Lincoln County

A new location was announced in the north part of the West Chandler Pool, in Lincoln County, by the Magnolia Petroleum Co. The test is No. 1 Cash, SW cor. NE SW, Section 6-14-4. It is a half mile north of production in the field.

T. B. Slick Oil Co. and Stanolind Oil & Gas Co.'s No. 2 Kentzelman, SE cor. SW, Section 7-14-4, Lincoln County, was plugged back to 5,081 feet in an attempt to shut off the water. On the first test for production the well made 310 bbls. of oil in 10 hours. The same companies' No. 3 Kentzelman, NE cor. SE SW, Section 7-14-4, was drilling at 4,960 feet.

Mid-Continent Petroleum Corp.'s No. 1 Lillis, NE cor. SE, Section 9-13-6, Lincoln County, was plugged back to the Hunton lime at 4,040-70 feet and given a shot and completed for 13,000,000 feet of gas a day. The test was drilled to the Wilcox sand at 4,265-4,318 feet where it found a hole full of water.

Greater Seminole Production

The production from the Greater Seminole area for the week ending June 11 was approximately 178,645 bbls. The first 12 pools listed below comprise the Seminole area which averaged 126,624 bbls.

Pool—	Bbls.
Little River	24,265
East Little River	5,432
Carr City	13,963
Maud	2,350
Mission	8,473
Bowlegs	13,887
Earlsboro	18,318
South Earlsboro	5,515
East Earlsboro	16,823
Seminole	11,658
East Seminole	1,862
Searight	4,078
Total	126,624
Allen	11,653
Asher	668
Wanette	5,985
Konawa	9,645
Sasakwa	2,310
St. Louis-Pearson	21,760
Grand total	178,645

Oklahoma City Shipments

The total shipments from the Oklahoma City Field for week ending June 13 were 1,140,085 bbls. The shipments by companies were as follows:

Company—	Bbls.
Champlin	8,603
Continental	23,968
Empire	232,447
Magnolia	7,617
Oklahoma	78,748
Operators	15,777
Prairie	11,055
Shell	81,547
Sinclair	322,654
Stanolind	294,301
I. T. I. O.	32,284
Tidal	9,318
Anderson-Prichard	666
Petroleum P. L.	4,978
Century	13,141
Crude Oil P. L.	4,981
Capitol P. L.	None
Total	1,140,085

The daily production and pipe line shipments from the Oklahoma City Field for the week ending June 13 were as follows:

Date—	Prod.	Wells	Shipments
June 7	170,184	103	157,872
June 8	152,503	96	132,110
June 9	202,756	114	165,769
June 10	182,545	118	160,079
June 11	160,660	105	174,841
June 12	199,792	117	172,087
June 13	172,592	107	177,327

Bryan County

O. P. Bush's No. 1 Commerce Trust Co., NE cor., Section 35-6s-9, has been abandoned at 740 feet.

Cotton County

Shasta Oil Co.'s No. 5 Moore, SW cor. NE SW, Section 2-2s-10w, is pumping 15 bbls. from sand 2,195-97 feet.

Creek County

Curtis and Tulsa Oil Co.'s No. 1-A Purcell, C NW NE, Section 22-19-9, has been completed for 168 bbls. in Wilcox sand 2,752-55 feet.

Grady County

J. B. Nichols' No. 1 Williams, C S half S half, Section 24-4-8w, made 12,000,000 feet of gas in sand 1,930-66 feet.

Hughes County

J. J. Wright's No. 1 Roberts, SE cor. SW, Section 15-5-11, is dry and abandoned at 1,645 feet.

Lincoln County

Magnolia Petroleum Co. made location for No. 1 P. Cash, SW cor. NE SW, Section 6-14-4. Mid-Continent Petroleum Corp.'s No. 1 Lillie, NE cor. SE, Section 9-13-6, has been completed for 13,500,000 feet of gas in sand 4,038-68 feet, total depth 4,318 feet.

Marshall County

D. B. Taliaferro and others moved a machine in for No. 1 Fee, NW cor. SE SE NW, Section 34-5s-5.

Muskogee County

W. F. Simpson and others' No. 1 M. Manuel, CWL SE NE, Section 24-15-17, has drilled to 1,483 feet and shut down.

Oklahoma County

T. B. Slick estate made location for No. 1 Long, SW cor. NW SE, Section 15-11-3w. Phillips Petroleum Co.'s No. 1 Hare, NE cor. SW SE, Section 34-12-3w, has been completed for 8,290 bbls. in four hours on 3½-inch choke, producing from Wilcox sand topped at 6,302 feet, total depth 6,505 feet. Anderson & Prichard's No. 1 Wilson-Carpenter, SW cor. NW NE, Section 2-11-3w, has been completed for 1,097 bbls. in sand 6,210-6,493 feet. Westgate Oil Co.'s No. 1 Grace, CWL NW NE NW, Section 10-11-3w, topped Wilcox sand at 6,365 feet, drilled to 6,515 feet and made 7,361 bbls. in 4½ hours. L. G. Simon and S. P. McGinnis' No. 1 McGinnis, CEL SE NW NW, Section 10-11-3w, made 9,230 bbls. in 5¼ hours from Wilcox sand topped at 6,380 feet, total depth 6,539 feet. Phillips Petroleum Co.'s No. 1 Dora, SW cor. NE NW, Section 10-11-3w, topped Wilcox sand at 6,363 feet, drilled to 6,534 feet and made 5,678 bbls. in five hours. Paine-Johnson, Inc.'s No. 1 Chapin-Levi, NW cor. SE NW NW, Section 10-11-3w, has been completed for 4,515 bbls. in 4¼ hours in Wilcox sand topped at 6,385 feet, total depth 6,542 feet. Great Southern Petroleum Co.'s No. 1 Bucher, NW cor. SE SW NW, Section 10-11-3w, made 3,492 bbls. in four hours from Wilcox sand topped at 6,430 feet, total depth 6,520 feet.

Okmulgee County

Eagle-Picher Lead & Zinc Co.'s No. 2 M. Bird, SW cor. NW NW NE, Section 5-12-12, has been deepened to 2,338 feet and plugged back to sand, 2,146-50 feet, and completed for 4 bbls.

Osage County

The Texas Company's No. 1, CNL NE NW, Section 13-24-8, is drilling at 890 feet. Oklahoma Natural Gas Corp.'s No. 1,836, SW cor. SE, Section 26-21-11, is drilling at 1,475 feet. L. R. Twyman and others' No. 2, NE cor. SW SW, Section 21-27-11, made a 5-bbl. well in Bartlesville sand 1,670-85 feet. The Texas Company's No. 1, CSL SE SW, Section 12-24-8, has been completed for 20 bbls. in sand 2,320-25 feet, total depth 2,333 feet. F. J. Carroll's No. 3, NE cor. SE, Section 15-24-8, made 75 bbls. in sand 2,247-64 feet. A. G. Oliphant's No. 3, NE cor. SE SE, Section 21-24-9, is dry and abandoned at 812 feet. Bacon & Voyles' No. 10, SW cor. NW SW, Section 30-23-9, has been abandoned at 914 feet. E. O. Platter's No. 7, SE cor. NW NE, Section 30-22-9, is dry and abandoned at 525 feet. No. 8, NE cor. SW NE, Section 30-22-9, made 8 bbls. in sand 425-38 feet. Barnsdall Oil Co. and others' No. 1, SW cor. NW SW, Section 34-22-11, has been abandoned at 2,260 feet. Turman Oil Co.'s No. 7, CEL W half SW, Section 11-21-8, was completed for 75 bbls. in Red Fork sand 2,246-72 feet. J. L. Essley's No. 1, SW cor. SE, Section 1-20-9, has been abandoned at 2,240 feet. Oklahoma Power & Water Co.'s No. 119, SE cor. SW SW, Section 4-20-10, is dry and abandoned at 2,280 feet. Oklahoma Natural Gas Corp.'s No. 1,824, has been completed for 3,500,000 feet of gas in Bartlesville sand 1,574-80 feet.

Pawnee County

Stanley Brewer's No. 1 Kilpatrick, NE cor. SE NE, Section 19-20-7, is drilling at 1,320 feet. Spartan Drilling Co.'s No. 3 Lederer, SE cor. NW NW, Section 24-20-7, has been deepened from 2,448 feet to 2,650 feet and shut down with a show of oil. M. B. Jensen's No. 1 Tate, SE cor. NW, Section 9-20-9, is setting casing at 450 feet. T. E. Harris' No. 1 McCollum, SE cor. NW NW, Section 14-20-9, is drilling at 280 feet. Comar Oil Co.'s No. 1 Bayhylle, SW cor. SE SE, Section 18-22-5, is dry and abandoned at 3,408 feet. Peter Adamson, Jr.'s No. 1-A Cohen, NW cor. SW, Section 3-20-8, has been completed for 5 bbls. in sand 1,548-78 feet, total depth 1,630 feet. No. 1-A McFall, NE cor. SE, Section 4-20-8, drilled to 1,815 feet, plugged back to 1,573 feet and was completed for 6 bbls. T. E. Harris' No. 1 Brodell, NW cor. SE, Section 9-20-9, is dry and abandoned at 641 feet. Thompson & Black's No. 4 Mote, NW cor. NE SW, Section 14-20-9, has been completed for 1,100,000 feet of gas in sand 873-903 feet.

Pittsburg County

Midwestern Oil & Gas Co.'s No. 1 Mattock, C NW SE, Section 8-7-18, made 1,000,000 feet of gas in sand 1,937-2,178 feet.

Pontotoc County

Stanolind Oil & Gas Co.'s No. 2-B Haynes, NE cor. SW, Section 32-5-5, Bebee Pool, has been completed for 360 bbls. in dolomite 2,430-49 feet.

Pottawatomie County

Twin State Oil Co.'s No. 5 Archer, SW cor. NE SE, Section 22-6-3, West Asher Pool, has been completed for 700 bbls. in sand 3,521-35 feet.

Stephens County

H. J. Brown's No. 1 Hightower, SW cor. SE NE, Section 15-3s-5w, is drilling at 405 feet. Ross Suthard's No. 1 McKinley, NE cor., Section 25-1-8w, is dry and abandoned at 1,063 feet.

Wagoner County

C. D. Bradley's No. 2 Jacobs, NE cor. SE NW, Section 7-15-17, has drilled to 1,015 feet and shut down. J. P. Flannigan's No. 1-A Showalter, CWL SE SW, Section 20-16-19, made 681,120 feet of gas in sand 1,010-20 feet. Barth and others' No. 1-A McIntosh, NW cor. SW SE, Section 22-18-15, is dry and abandoned at 1,071 feet.

Seminole County

The Prairie Oil & Gas Co. and T. B. Slick estate's No. 6 Hude, NW cor. SE NW, Section 2-8-5, has been completed for 495 bbls. in sand 4,155-74 feet.

I.P.A.A. Directors Vote to Go on With Oil Tariff Campaign

The board of directors of the Independent Petroleum Association of America, at an all-day session in Tulsa on June 10 decided that the association continue its fight for a tariff on oil, and to support the industry's proration policy, and other constructive movements beneficial to the petroleum industry.

The future policy of the association is set forth in the following resolution introduced by Wirt Franklin, president of the association and its founder:

"The Independent Petroleum Association of America reiterates as its dominant purpose the enactment of an adequately protective tariff upon, or other legally enforcible restriction of, imported oils, recognizing that such tariff or restriction must be supplemented by a fairly conceived and fairly administered control of such domestic production as shall exceed or threatens to exceed demand.

"While the association concentrates its efforts upon the achievement of the above purpose, it recommends to its members in its respective state divisions, a spirit of unselfish co-operation, in an effort, by the use of the local means available to them, to bring order out of the chaos which now exists. Under our present system, while each pool necessarily affects the entire industry, the responsibility for the orderly operation of that pool rests upon that locality alone, and the association urges the wise and unselfish discharge of that responsibility."

The directors decided to appropriate the sum of $1,000 towards the financial support of the Oil States Advisory Committee. Cicero I. Murray, chairman of the Oil States Advisory Committee at the invitation of George A. Dye, vice president of the H. F. Wilcox Oil & Gas Co., made the statement that all of the members of his committee favored a tariff on oil, but to avoid a controversy did not make this fact public in the committee's report following the Austin meeting, but that they expressed themselves at the Los Angeles meeting later.

Pat Malloy of Tulsa offered a resolution favoring the appointment of a commission consisting of Amos L. Beaty, treasurer of the American Petroleum Institute; Sam M. Hayes, former chief justice of the Supreme Court of Oklahoma; and Harry H. Rogers, president of the Exchange National Bank of Tulsa, which committee would make a survey of the Mid-Continent oil industry, working with other organizations, and recommend a course of action intended to stabilize the industry. After long discussion the resolution was defeated by a vote of 9 to 8.

The directors passed an amended resolution the substance of which was that the work of the Oil States Advisory Committee be supported in appreciation of the effort it was making, or intended to make, to aid the independent oil men.

Col. Arthur B. Ayers of Newcastle, Ind., a director of the association was elected a vice president for Indiana.

Seven new directors for Texas were named as follows: Charles F. Roeser, Fort Worth; J. S. Bridwell and P. D. Flynn, Wichita Falls; John A. Deering and J. S. Albercrombie, J. M. West of Houston; J. M. West, Jr., and W. C. Strouble of Corsicana.

Bad Weather Hurts in Chicago District

Long Deferred Outings Again Postponed. Prices Weaken and Retail Gasoline Prices Threaten to Go Lower. Fuel Oil a Drug

By Robert C. Conine

Chicago Bureau, The Oil and Gas Journal, 6 North Michigan Ave.

CHICAGO, June 15.—As if conditions were not bad enough, the last was the third or fourth consecutive week-end to be greeted with bad motoring weather, and rain again postponed the long deferred outings which are so profitable to the gasoline venders in this thickly populated area.

It is safe to say that the marketers in the Chicago district have reached the bottom in mind if not in actuality, because although the 2-cent tank car price, at which sizeable quantities of gasoline are moving, is a convincingly low figure for the possible minimum, the marketers are showing little hesitation in shading the ruling markets to obtain even small orders. A two-car order Saturday went to one of the larger sellers on a bid of 2.035 cents, basis Group 3, and a 10-car order earlier in the week was lost on a bid of 2.125 cents and a major company took the order at a price of 2 cents. One major refiner says that he confidently expects the gasoline market to drop to 1.5 cents. According to reports reaching Chicago U. S. Motor gasoline in California is now netting 1.5 cents at the refinery.

The ruling gasoline markets at the close of last week were as follows: U. S. Motor specifications, 2¼ cents to 2¾ cents; 60-62 gravity, 400 endpoint, 2¾ cents to 3 cents; 64-66, 375 endpoint, 2¾ cents to 3 cents; 64-66 endpoint blended gasoline, 2⅛ cents to 2¼ cents; 68-70, 360 endpoint, 3⅜ cents.

A continued increase in the quantity of antiknock quality gasoline coming into the Chicago district from El Dorado, Ark., Shreveport, La., Wichita Falls, Mirando City and Pecos Tex., is reported.

The keenly competitive market conditions have narrowed down the price spread among the various gasolines and most of the cracked gasolines which feature good antiknock quality range from one-eighth to one-fourth of a cent above the U. S. Motor market. The gasolines of higher gravity are experiencing a slack demand at this time due to seasonal considerations.

In the U. S. Motor markets, especially, the high of the price range (now 2¾ cents) is in the nature of a concession to custom and while a marketer may set such a price as his figure, it is generally understood that a lower price is acceptable or the business may be lost by adherence to the 2¾-cent price. One student of the markets who is associated with one of the major refiners said:

"If a marketer intends to stay in the running he must be prepared to shade his prices constantly. A week ago we lost an order because a competitor made a bid of 2¾ cents, or one-eighth of a cent below our price. Yesterday we lost a two-car order on a bid of 2½ cents when a competitor went to 2⅜ cents. I understand this competitor lost an order himself when another marketer moved the price on down to 2⅛ cents. If any marketer is holding out for 2¾ cents for his gasoline in the present markets it merely means that he is withdrawing from the spot market.

"One thing is certain and that is that the refiners are losing money. The question now is, whether one goes broke faster by selling at a loss or by not selling anything. Both methods are efficacious, and we will probably see the answer worked out very shortly."

Reports to the effect that two cargoes of East Texas gasoline had been shipped last week for movement in France, and that there is prospects that several more cargoes will follow, have been circulating in oil circles here although all attempts at verification have been without success. However, it is known that some East Texas gasoline is moving toward the Gulf.

An unprecedented number of rumors are rife, as might be expected in these critical times of the oil industry, and in practically every case the wish is found to be father to the thought, and verification is wanting or impossible to obtain. In none of the major companies, where it may be expected that a very close check is kept on the activities within the industry has it been possible to receive an indication that East Texas refiners are solely to blame for the present market conditions in the Chicago district. The East Texas crude oil production is in another category and does bear the burden of blame, as much from the psychological standpoint as from the material effects of overproduction. The rumors of ridiculously low priced East Texas gasoline competing in the Chicago area lose much of their momentum from the consideration that East Texas refiners must equalize freight charges beyond the Group 3 figure.

In connection with the third grade gasoline markets the most talked of angle is the possibility that the next few weeks will see a widespread revision downward in the regular grade service station markets. Arguments looking to this development feature the fact that the price difference of the higher grades in the tank car markets is now much smaller than when the third grade was introduced. If the tank car price of 60-62 gravity, 400 endpoint gasoline is only a quarter of a cent or so above the price of U. S. Motor, which represents the third grade in the tank car markets, why, say the marketers, should it be expected that the differential of 2 cents to nearly 5 cents will continue. Can Ethyl Gasoline hold the position it has in several cities of nearly 8 cents above the third grade? It is likewise argued that the competition on the regular grade level must be affected by the availability of antiknock quality gasoline at an eighth to a quarter of a cent above the U. S. Motor price.

At St. Louis the service station price situation is becoming acute. Stanolind Blue was recently reduced to 5.9 cents, exclusive of the 2.5-cent municipal and state tax levies in this city. In numerous small cities and towns similar price reductions have been made throughout the entire territory. In Chicago the third grade price continues at 8 cents plus 3-cent state tax, and while there are an increasing number of trackage station offerings of 7 cents plus tax, there is no indication that the 8-cent price will be lowered soon. One of the larger service station operators which has been selling at 7.5 cents plus tax returned last week to the 8-cent price.

Pipe Line Absorbs Freight Rates

Some apprehension as to the effects of the Great Lakes gasoline pipe line on the markets here has been found to be based upon a misconception as to the operation of the line. These fears are banished when it is pointed out that member companies of the pipe line will pay the regular freight charges for the transportation of their gasoline through the line. These member companies will benefit from the line through the receipt of dividends as in any other profit making corporation.

This pipe line is at present delivering 6,000 bbls. of gasoline at its Minneapolis-St. Paul terminal daily. The supposition that the Chicago area will be flooded with gasoline when this line begins to deliver here has been effectively controverted by an executive of a tank car manufacturing company who pointed out that considerably less than 200 tank cars will equal the capacity of the largest gasoline pipe line in the country. The fact that tank cars continue to be manufactured does not cause misgivings.

Information from reliable sources last week was to the effect that a number of the smaller refiners are finding it difficult to fill orders promptly, and have in an increasing number of instances advised their customers to buy elsewhere and charge the price difference back to the refiner. This situation may or may not have significance, depending upon whether the reason is a matter of being sold out, or because of enforced curtailment of gasoline movement into the district.

Fuel and gas-oil statistics seem to bear out the contention of various students who have held that the overproduction of these products is one of the principal dangers now facing the industry. A second consecutive 1,000,000-bbl. increase in fuel oil and gas oil stocks is noted in the June 6, A.P.I. report. It has been difficult to obtain accurate figures on the quantity of fuel and gas oil stocks at the East Texas refineries.

Although the railroads have from six months to a year's supply of fuel oil on hand, two instances are cited where a railroad has made it possible for a refiner to continue operations by taking the fuel oil. The price of the fuel was 5 cents a barrel. Although the time is very favorable for purchasing fuel oil, a saturation point can be reached, and is, according to several marketers who are in a position to know, a not far removed point.

According to some marketers, it is not so much a matter of selling the high cold test material which is filling up the storage facilities of the refineries, as it is a matter of getting the fuel oil out of the way. It is said that some refiners are storing fuel oil in ground storage, which is just a step above pouring it in the creek.

Fuel Oil and Gas Oil

The fuel oil and gas oil markets in the Chicago district, based on Group 3, show very little demand and continued downward trends.

While furnace oils have been affected by seasonal considerations, the fuel oils have suffered because of the low ebb in industrial activity. Refiners in the district who have never before gone outside of this area in marketing fuel oil are moving this material to distant points. On high cold test material there are plentiful offers at 10 cents a barrel in Illinois. The lowest figures, however, come from Texas, principally East Texas, where fuel oil is reported to be offered for 8 cents a barrel, and where a flat price of 15 cents a barrel covering a period of one year was offered on 36 gravity crude oil to a buyer.

Fuel and gas oil prices in the Chicago district at the close of last week had sagged as follows: 18-22 fuel oil, per barrel (low cold test), 22½ cents to 27½ cents; 22-26 fuel oil, per barrel, 27½ cents to 32½ cents; 28-30 fuel oil, per barrel (zero), 47½ cents to 52½ cents; 32-36 industrial gas oil, three-fourth cent to 1 cent; 32-36 gas oil, 1⅛ cents to 1⅜ cents; 38-40 straw distillate, 1⅛ cents to 1⅜ cents.

Kerosene

Kerosene is exceedingly dull and lower in price. The ruling prices are, for the 41-43 water white, 2⅛ cents; for 42-44 water white, 2⅜ cents. A considerable number of offers of 41-42 water white material is reported, however, ranging down as low as 1¾ cents. A prime white distillate has been sold in large quantities at 1½ cents.

Naphthas and Natural Gasoline

The low U. S. Motor markets have retarded the early promising movement of naphthas used in making blended gasoline. The price on the 50-52, 450 endpoint material has receded an eighth of a cent to 2⅜ cents, with the demand somewhat slackened. There is still some comparatively strong movement in natural gasolines, although the price is unimproved.

The continued demand for natural gasoline is attributed by one refiner to the fact that the hot weather is causing refiners to lose some of their lightest ends making it necessary to restore the desired gravity by introducing natural gasoline. Although there has been some agitation in this district to market natural gasoline on a basis of vapor tension, the prices ruling at the close of last week showed no differentiation in price between 90 per cent recovery natural and 85 per cent recovery material. Prices were slightly lower, as follows: Grade A, 72-79.9 gravity and 375 endpoint, 90 per cent recovery, 1⅞ cents, an eighth of a cent drop; Grade AA, 80-87.9 gravity and 375 endpoint, 90 per cent recovery, 1½ cents, a decline of an eighth of a cent; Grade BB, 84-92 gravity and 375 endpoint, 85 per cent recovery, 1½ cents, unchanged.

GAS WELLS COMPLETED IN NEW YORK-PENN.

(Continued from Page 40)

rangle company and also several of the other wells owned by independent companies.

The Crescent Producing Co. is now selling gas to the Belmont organization. The line was laid from the Wayne Field across the farm lands between the Wayne-Dundee Fields into the main line which was put through to Horseheads about a year ago. So far this is the only outlet for the gas wells. The people in this village are rapidly having their homes piped for the use of gas for both cooking and heating purposes.

Columbian Carbon in Field

The arrival of another company to take part in the development of the Dundee-Wayne and Tioga gas fields was announced today with the opening of temporary offices in the Mark Twain Hotel, Elmira, of the Columbian Carbon Co. of New York City.

A number of leases in the two fields have already been taken and it was stated that the company plans immediate operations. J. E. Fraser is head of the Elmira office, to be assisted by Victor Cotner, geologist.

It was stated today that the company will establish a permanent office at Elmira.

NATIONAL TRANSIT CO. BUYS PUMP PATENTS

OIL CITY, Pa., June 15.—The National Transit Pump & Machine Co. has taken over the manufacture of Curtis rotary pumps from the Pittsburgh Machine Tool Co. of Braddock, Pa.

National Transit has completed the purchase of a complete line of rotary pumps and all patents, dies, drawings, patterns and tools connected with Curtis pump manufacture have been moved to Oil City. This gives the Transit a complete line in the pump field for all sizes and uses. Production of the Transit-Curtis rotary pump will be started on a large scale within 30 to 45 days.

The first 1,200 horsepower unit ever built by National Transit is now in process of construction and the testing floor will be required to stand a 90,000-pound thrust when the huge machine is tested.

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AM IN THE MARKET for standard steel 84 foot drilling rig and heavy duty rotary steel drilling rig. Also both standard and rotary drilling tools. Also casing in all sizes from 20" to 5½". Also steel tanks of various sizes. All equipment must be first class and very cheap. Address Box 467, Red Cloud, Nebraska.

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WANTED TO BUY No. 2-A or 3 Steel National Drilling Machine complete. Must be in A-1 shape. Address Box 292, Duncan, Okla.

CASING WANTED

Will give substantial interest in lease and well in Oklahoma City field for 5,500 feet 40 pound 9" casing and 6,500 feet 26 pound 6⅝" casing needed for completion of well. Have well financed except casing. Well now drilling below 2,500 feet. Located in heart of best Wilcox area offset by 40,000 to 50,000 barrel wells with 150 feet or more Wilcox oil sand. Consider location certain for 40,000 to 75,000 barrel well. Quick action necessary. Write Box E-504, The Oil and Gas Journal. Tulsa, Okla.

WANTED TO BUY: Several No. 3 National steel drilling machines. Quote best price and state location. Address Box E-509, The Oil and Gas Journal, Tulsa, Okla.

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Four 10,000-gals. tank cars coiled. 50 ton trucks. Victor Car line, 111 West Jackson Blvd., Chicago, Ill.

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SALVAGE OF
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Pumps, Pipe, Fittings, Stills, Tankage, Condensers, Machinery; 100 H. P. Boilers, Hospital Equipment, Buildings, Etc. Representative on grounds.

CHESTNUT & SMITH CORPORATION

SAND SPRINGS, OKLA.
Phone 28.

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Factory Rebuilt Star Drilling Machines—Steam or Gasoline Power—Tractor and non-tractor types. Greatly reduced prices. THE STAR DRILLING MACHINE CO. Akron Ohio, or Chanute, Kansas.

FOR SALE—EQUIPMENT

FOR SALE—Slightly used Ingersoll-Rand steam two stage, 250-pound air compressor. Piston displacement. 312 cubic feet per minute at 200 r.p.m. Complete with intercooler and receiver. Write Box E-456, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE for a low price. A gasoline powered Sullivan Diamond Core Drill. Write Box E-492, The Oil and Gas Journal, Tulsa, Okla.

INGERSOLL-RAND COMPRESSORS

With vertical intercoolers, good as new. (3) 10x4½x10 belt driven XOB, starting 1,000 lbs., working 750 lbs., cost new $2,141.00. (1) 11x5x10, XOB start. 750 lbs., working 400 lbs., cost $2,240.00. (1) 13x7x12, 300 lbs., 200 lbs., cost $2,585.00. Reasonably priced for quick sales.

MONTAGUE OIL CO.,
ZENORIA, LOUISIANA.

RECONDITIONED PIPE AND CASING. All Sizes. Our Prices Are Right.
LEE MORRISON SUPPLY CO.
BARTLESVILLE, OKLA.

MAGNETOMETER—Practically new. Will sell for one-half cost price or will operate same on some workable basis. M. P. ROGERS, 915 HAMILTON BLDG., WICHITA FALLS, TEXAS.

BUSINESS OPPORTUNITIES

DEEDED MINERAL interest spread covers 6 tracts one under 5,000 barrel well in Rusk County new field. Write for map. ¼ mineral rights 142 acres Bee County 1,200 feet from 450 barrel well $250.00 basis. 7,905.5 acres new 10 year paid up lease ¼ royalty same term Edwards County, Texas, in active line of play $1.25 acre. Stieren & Koenig, Alamo National Bldg., San Antonio, Texas.

$12.50 BUYS DEED part oil, 2 Oil Royalties City Pool. Ed Milam, Dept P., Oklahoma City, Okla.

CHEAPER THAN leases. Owner offering fee 400 acres Crane County near production. Jeff Smith, Nalle Bldg., Austin, Texas.

OIL located before drilling. Geophysical method. Topgodometer Instrument; take pay in oil. No oil, no pay, except traveling and testing expenses, 95 per cent accuracy. O. P. Coffin, Caddo, Tex.

CO-OPERATION but no PRORATION

One hundred dollars cash or terms buys undivided non-assessable two hundredth interest in test well on ⅞ perpetual nonrental 320 acre lease, eastern Nebraska, located on core-drilled structure. All money in trust until full amount for turnkey contract to Wilcox sand is on hand. Petroleum Producers, Inc., 800 First National Bank Bldg., Omaha, Neb.

CAN FINANCE legitimate deals requiring $2,500 or more. Corporations formed any state. Mail sales campaigns, booklets, etc. Coast Service, 314 W. Wilson Bldg., Huntington Park, Calif.

FOR SALE, TEXAS COMPANY BULK AGENCY. Good town on intersection of two national highways. Box E-503, The Oil and Gas Journal, Tulsa, Okla.

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For

REFINERIES AND SUPPLY HOUSES

At MINEOLA TEXAS in center of EAST TEXAS production, best distribution point in territory. Three railways in FOUR directions. Four State and one Federal Highway radiating out of our City in all directions. As pure water as can be found for industrial purposes will be supplied you. Adequate power from Southwestern Gas & Electric Co. to your location. Our citizens and our railroads pledge you their full cooperation.

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ATTENTION OIL MEN

If you want a block of attractive wildcat acreage close to production and other wells drilling, write Bert Conly, Ringgold, La.

BUSINESS OPPORTUNITIES

CURTIS BROKERAGE COMPANY
dealers in
Used Oil Field Equipment
for
Drilling, Production, Gasoline and Pipe Line Departments.
List your surplus with us.
And advise us of your needs.
S. O. Curtis, P. O. Box 1214.
Seminole, Oklahoma.

NATURAL Gas or petroleum accurately designated from the surface by new geophysical method for expenses and interest in production. Write Oil & Gas Reports, Inc., 428 Union Trust Bldg., Pittsburgh, Pa.

FOR SALE—1/100th over-riding interest in 12,000-bbl. well, Prue survey, Rusk County, $750. Also 1/128th interest in 10,000-bbl. well, Knowles Tract, Kilgore Townsite, $600. Morris Kolber, 1714 Eugene Street, Dallas, Texas.

HAVE MADE LOCATION, Oklahoma City Field, offsetting 41,000 bbl. Wilcox well. Will pay a few investors $10,000 out of first oil for $5,000 cash invested, as well progresses. Write Box 489, Shawnee, Okla.

PARTNER WANTED to assist in organizing a company to explore large blocks of prospective Oil and Sulphur lands in the Texas Gulf Coast. Prefer man who has connections with northern States and Canadian Paper and Rubber Manufacturers. Will arrange interview and inspection of properties. References exchanged. R. T. S., 211 S. High St., Longview, Texas.

GAS PROPERTIES: Producing Wells Eastern Kansas, Sand and shale, reserve acreage. Excellent market. Write Box E-507, The Oil and Gas Journal, Tulsa, Okla.

WANT PARTY to assist in financing test well on 1,200 acre lease located within 12 miles of 15,000 Bbl. GUSHER in Anderson Co., Texas, close to pipe lines and R.R. Good geological report and in direct trend of large production. Will give 50/50 interest in entire lease for QUICK ACTION. Box E-506, The Oil and Gas Journal, Tulsa, Okla.

JOBERT OIL DRILLING COMPANY offers fifty divided assignments interest nonassessable in drilling well on forty acre lease, mile and half from production Kilgore, Texas. Interest money back from first oil runs before company receives a cent. One thousand dollars per. Send money to Citizens Bank or 300 South Saunders St., Tyler, Texas. No stock or units but ownership interest. Total interest in seven-eighths lease one hundred. Jobert Petroleum Company, 300 South Saunders, Tyler, Texas.

WOULD SELL INTEREST in patent rights. Patent ready for issue by Government. C. C. Stallings, Silverdale, Kans.

OWN 700-BARREL REFINERY, new process and a proven success, unlimited possibilities. Will trade interest in refinery for interest in production and move refinery to location. Prefer New Mexico. Write J. L. Havins, Box 84, Mexia, Tex.

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CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms Colonial Charter Co., Wilmington, Del.

INCORPORATE YOUR BUSINESS. Delaware State Laws. Many advantages. Cost $46.50. Write Today. Free information. Dept. 16, Corporation Fiscal Co., Wilmington, Del.

HOTELS

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Cushing, Oklahoma
"Where Oil Men Meet"
Modern, Fireproof, Coffee Shop.

NEW BRADY HOTEL, TULSA, OKLA.
Tom Wilson, Mgr.
Fireproof, remodeled, new management. Free parking. Prompt, courteous service. Rates $1.00 up. Private baths $1.50.

HOTEL HAWLEY
McPherson, Kansas.
"The Oil Men's Home"
Modern fire-proof Hotel. Rooms $1.50 up.

MONEY RAISING

DO YOU NEED MONEY for organising or financing oil or mining deals? Write 2443 N. W. 12th, Oklahoma City

FINANCE YOUR OWN project with shares bonded. Quickest, most satisfactory known method of raising capital. Information free. Bankers Interstate Security, Electric Bldg., Denver, Colo.

IF YOU WANT your securities or proposition intelligently submitted to underwriting and security selling houses in New York, write W. W. Hines, Room 803, 150 Broadway, New York City.

CAPITAL: An exp. dependable broker will aid in financing projects of merit Amster Leonard, East Orange, N. J.

CAPITAL—Call or send facts about high grade oil projects to James E. Miller Co., Room 200 New Brady Hotel, Tulsa Okla.

CORPORATE ORGANIZING
AND FINANCING
BROOKWORTH,
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WE CO-OPERATE in securing capital and guarantee to repurchase your securities. Send facts to the Stow Security System. 2057 Center St., Berkeley, Calif.

JOHN MORRIS, 3608 WARREN ST., PHILADELPHIA, PA., invites full facts first letter from capable parties planning negotiation of reasonable capital support for undertakings distinctly of higher order. Use registered mail, safeguard data.

SOUND PROPOSITIONS seeking capital for development or expansion send details. S. I. C., 82 Wall Street, New York City, N. Y.

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MAPS
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OIL DEVELOPMENT maps, any county in Oklahoma, 75 cents each; lease block and detail maps. Write for map list. Lindsay Map Co., Franklin Bldg., Oklahoma City, Okla.

M-A-P-S

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NEW MEXICO OIL MAPS — New white print with key explaining present activities in Torrance and surrounding territory just completed. Price $1.50. New white print, any county, $1.00. Staplin & Staplin, Santa Fe, New Mexico.

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ORDER your oil and gas lease blanks from our large stock of forms. Leases, releases, agreements, etc. Prompt shipment. The Hutchinson Office Supply & Printing Co., Hutchinson, Kans.

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Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog.

New Mid-Continent Oil and Gas Ass'n. Unitization Committee Forms, Unit operating contract and accounting schedules. Samples gratis. Olds Press, 215 East Third Street, Tulsa, Okla.

ANNOUNCEMENTS

MOUNTAIN IRON & SUPPLY CO.
Oil and Gas Well Supplies
announces the closing of its Eldorado, Kans., store and the opening of a new store at McPherson, Kans.
H. A. Binford, Manager

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New—Used.
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MINERAL DEEDS—LEASES
Mineral deeds under major company leases or accompanied by leases, Stevens-Morton County area, Ness-Trego-Gove area in Kansas and Beaver-Texas Counties, Oklahoma area.
J. W. SAIN
310 Brown Building
Wichita, Kansas.

I AM specializing in Panhandle gas production, leases and royalties; gas is hard to import. Write E. B. Reeves, Alanreed, Gray County, Texas.

WE BUY AND SELL LEASES, ROYALTY, MINERAL DEEDS, and production. Also large and small drilling blocks in the East Texas Oil Fields. Address Bailey & Bailey, P. O. Box 1721, Kilgore, Texas.

OIL AND GAS LEASES and royalty for sale near Cumbie and Joiner wells, Van Zandt County; also in other parts of country. J. C. Allen, Grand Saline, Tex.

FREE DRILLING BLOCKS. Hot Spot East Texas; also leases, royalties under development. Ed. Willmann, Blackstone Hotel, Tyler, Texas.

KETTLEMAN HILLS
320 ACRES in the North Dome Area where the Superior's Huffman wells, Petroleum Securities' Felix wells and Associated's Whipley wells are producing the greatest flow of high-gravity oil in California.
STANDARD OIL COMPANY
Owns the land joining this 320 acres on three sides. Each completion of above large wells tends to prove this land.
UNION OIL COMPANY
Purchased a half interest in an oil lease covering 160 acres in this area for which it is reported they are paying eight million dollars or $100,000 per acre—mind you, this is just for an oil lease.
This 320 ACRES is owned outright, it is not leased and we have an outlook of receiving that kind of money for an oil lease plus the money to be received from production by Royalty retained.
I NEED MONEY
Therefore, I will sell a portion of this valuable holding at excursion rates. To the right parties I may sell a half interest. Good stocks and properties will be considered as part payment. A. E. WRIGHT, 406 SUBWAY TERMINAL BLDG., LOS ANGELES, CALIF.

10,000 Acres—Yalobusha County, Miss. 7/8th leases for well. 20 mos. free rentals 25 cents. Fine report. 217 Court Street, Memphis, Tennessee.

WELL LOCATED 6,000 acres northeastern Michigan. Will lease or sell for adequate oil development. Owner, Josviak, 201 North Van Buren, Bay City, Michigan.

BUY NOW: Leases and Royalty in West or East Texas at present low prices will pay buyers larger per cent now than ever before, Anderson, Linz Bldg., Dallas, Tex.

LEA AND ROOSEVELT COUNTIES
New Mexico, 1/64th interest perpetual mineral deeds under Major Oil Co. 160-acre leases. Price $25. Active areas. Roy G. Barton, Avalon Hotel, Clovis, N. M.

TIME TO RENEW: We can renew your New Mexico oil leases under new laws so as to give you 10 years with greatest possible advantages. Staplin & Staplin, Santa Fe, N. M.

WANTED FROM OWNERS OR BROKERS
East Texas leases and royalties producing and close in; also let us know your wants if you wish to buy. L. A. (Pat) Casey, Blackstone Hotel, Tyler, Texas.

SUPPLIES

THE DRILLERS SUPPLY CO.
Oil Well Supplies.
McPherson, Kans.
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ROYALTY RECORD
Form shows rental record, mortgage record, expenditures, sales record, tax record, well record, monthly production record. All on one sheet; size 8½"x11"; punched to fit standard ring binder. Convenient for desk or brief case. Sheets—$5 per 100; fine leather binder, $5.25; leather tabbed index, $1.20. Order this complete record today. Know what you own and its condition.
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A real royalty service for dealers. Now specializing in Oklahoma City Pool. Subscribing to all dependable sources of information—with buyers actually on the ground—taking our responsibilities seriously.

TWO TESTS IN PROGRESS in west half of Cleveland County, Arkansas. Perpetual royalties and leases at reasonable prices. Write or wire J. D. Shearer, Stuttgart, Ark.

ROYALTIES on structure, under drilling wells, Stafford, Ellsworth Counties, Kans. Franklin, Gregg, Rusk, Upshur and other East Texas areas. Fast, dependable service for brokers and investors, in United States and Canada. James R. Haynes, Grantville, Kans.

$100 WILL BUY 1/32 landowner's royalty on tract in C. M. (Dad) Joiner's new East Texas development. Excellent opportunity. A. L. Farrel 1, Grand Saline, Tex.

EAST TEXAS ROYALTIES on geology head of production with wildcats drilling close. Sensible prices and individual direct deeds. See maps and geology and pick your own play. Wells drilling make promptness important. R. R. Fisk, 1214-C Wichita Falls, Tex.

WILL PAY CASH for producing Royalties anywhere. Send full information. Merrick C. Ham. Pres., Lamont & Co., Ltd., 1107-8 Bartlett Bldg., Los Angeles, Calif.

BEDROCK ROYALTY PRICES ahead of drilling on major company blocks. $6 per square mile. Perpetual deeds and title warranty. Clearly stated and understandable interests. See maps and bulletins. R. R. Fisk, Box 1214-B, Wichita Falls, Texas.

MID-CONTINENT OIL ROYALTIES at reasonable prices and with assurance of safety. Past record "Chicago dealer since 1920" indicates quick return of principal and handsome profit. Write me. J. A. Wolf, 208 South LaSalle St., Chicago, Ill.

$12.50 buys deeds, part oil, two Oil Royalties City Pool. Ed Milam, Dept. W. Oklahoma City, Okla.

PRODUCING ROYALTIES
Constitute the Best Form of Oil Investment.
I HAVE THEM EVERYWHERE.
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Repairs and Parts for International Oil Field Trucks—Prompt Service.
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130,000 ACRES FOR $1.30 PER ACRE

Fine ranch, mineral oil land; well improved, six miles from Rio Grande River frontage. One half beautiful, fertile Valley land, balance rolling, splendid grass, good water in abundance. 16 natural perpetual springs of pure water, easily irrigated, ideal cattle country. Valuable timber on part ranch; Deer, Bear and small game plentiful. Rich mineral deposits of silver, copper in this land. Few miles to south lay best silver mines in country. Good Oil Structures with favorable showings of Oil on this land. Not far from active drilling. Good title, reasonable small cash payment, balance long time, low interest rate. Might divide ranch if wanted smaller acreage. Write J. E. Sherman, Falfurrias, Texas.

POSITIONS WANTED

GRADUATE CONSTRUCTION ENGINEER-SUPERINTENDENT. Eight years' experience refinery and main line pump station construction. Estimator. Desires permanent position with reliable concern. Available June 1. Desired references furnished. Write Box E-494, The Oil and Gas Journal, Tulsa, Okla.

YOUNG TECHNICAL GRADUATE
With Gas-Lift and Drafting experience desires connection with oil company. Write Box E-502, The Oil and Gas Journal, Tulsa, Okla.

LUBRICATING ENGINEER: 10 years experience on lubrication of mining equipment, acquainted with Iron range, Copper mining; also Diesel equipment and any Steam equipment. Good references. Married. Move any place. Write Box E-505, The Oil and Gas Journal, Tulsa, Okla.

REFINERY SUPERINTENDENT
Now open for offer, fifteen years practical experience building and operating all types refineries. Technical training. Best references. Write Box E-501, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

I NEED A SALESMAN to sell Oklahoma oil royalties and land. My plan would place you in business for yourself. Write Box E-493, The Oil and Gas Journal, Tulsa, Okla.

MECHANICAL ENGINEER thoroughly trained in design of rotary rigs with long experience in office and shop work wanted by European oil well supply works. In reply please give information concerning your personal history and details concerning your education and experience; send kodak picture of yourself; state salary expected and date available. Location Germany. Write Box E-498, The Oil and Gas Journal, Tulsa, Okla.

EMPLOYMENT

HIGH GRADE MEN use our services to find suitable employment. THE NATIONAL BUSINESS BOURSE (Est. 1915), 20 W. Jackson, Chicago, Ill.

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The rate for Classified Display Advertising set in similar style to this Ad or in two Column style is as follows for each insertion:

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Changes in copy must be in our office 10 days in advance of publication date.

Mail your advertisement to the Largest Classified Section in the Oil Industry.

THE OIL AND GAS JOURNAL
TULSA OKLAHOMA

WANTED

EXPERIENCED OIL MAN, $5,000 investment required. Permanent position for right party. Write Box E-482, The Oil and Gas Journal, Tulsa, Okla.

PARTY OR PARTIES to drill or will sell reasonable 5,000 acres near Gypsy Co. now drilling at Wall, S. Dak. Address H. Reinbold, 2261 Hudson St., Denver, Colo.

REFINERY WANTED: A good sized complete going proposition; want full data in confidence from owner. Write Box E-508, The Oil and Gas Journal, Tulsa, Okla.

WANTED
EASTERN AND NORTHERN BROKERAGE FIRMS as representatives for the sale of interest in royalty covering producing wells East Texas Oil Fields. Ask for full information.
AMERICAN NATIONAL BROKERAGE CO.
HOTEL LONGVIEW
LONGVIEW, TEXAS.
Phone 1133.

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Before disclosing your invention to anyone, send for blank form.
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PATENTS—Write for our book, "How to Get Your Patent," and evidence of invention. Send model or sketch of invention for our examination and instructions free. Randolph & Co., Dept. 472, Washington, D. C.

ADDITIONAL CLASSIFIED ON PAGE 102.

CLASSIFIED WANTS

(Continued from Page 101)

LEGAL

IN THE DISTRICT COURT OF TULSA COUNTY, STATE OF OKLAHOMA.

Forrest E. Gilmore Company, a corporation, Plaintiff, vs. Continental Supply Company, a corporation, Defendant, No. 49,852.

NOTICE TO CREDITORS TO FILE CLAIMS

You and all creditors of the Forrest E. Gilmore Company, a Delaware Corporation, are hereby notified, by virtue of an order of the District Court of Tulsa County, Oklahoma, made on the 4th day of May, 1931, to file a verified statement of your claim with the undersigned Receiver, on or before the 15th day of June, 1931.

The creditors are further notified that any claims which are not filed with the Receiver on or before the 15th day of June, 1931, will be forever barred.

Claims should be directed to the undersigned Receiver at his offices at 204 Beacon Life Bldg., Tulsa, Oklahoma.

J. H. Brooks, Receiver,
Yancey, Spillers & Fist,
Attorneys for Receiver.

IN THE DISTRICT COURT WITHIN AND FOR TULSA COUNTY, STATE OF OKLAHOMA.

Forrest E. Gilmore Company, a corporation, Plaintiff, vs. Continental Supply Company, a corporation, Defendant, No. 49,852.

NOTICE OF SALE

You and each of you will take notice by virtue of an order of sale made and entered on the 5th day of May, 1931, the undersigned J. H. Brooks, Receiver for all of the assets of the Forrest E. Gilmore Company, a Delaware Corporation, located in the State of Oklahoma, will offer for sale and sell to the highest bidder for cash, subject to the confirmation of the Court, certain gasoline plants, equipment and gas contracts described as follows, to-wit: Plant No. 2, located at Mannford, Oklahoma, in the Northeast Quarter of the Northeast Quarter (NE¼ NE¼) of Section Thirteen (13), Township Nineteen (19) North, Range Eight (8) East, Creek County, Oklahoma, 1—36"x 40' Evaporator and knock-out tower; 1—24"x24' Bubble type tall absorber; 1—24"x30' Oil Heater; 1—250-bbl. steel tank, Gas Type. Plant No. 7, located in what is known as the Bowlegs Pool, Oklahoma, in the Northeast Quarter of the Northwest Quarter (NE¼ NW¼) of Section Twenty-three (23), Township Eight (8) North, Range Six (6) East, Seminole County, Oklahoma, 1—Compressor Building; 1—Auxiliary Building; 1—Pump Building; 1—Warehouse; 1—Office; 4—180 HP Clark Twin Gas Engines Direct connected to compressor cylinders (2 of these compressors robbed); 1—40 HP Clark Gas Engine Type F; 1—6 HP F. & M. Gas Engine; 1—Pyle National Generator; 1—4-cycle Hercules Engine Model OX; 1—4-cycle Hercules Engine Model OX (Robbed); Vapor proof fixtures, conduit, wiring, etc., 36'x 3 15/16" steel line shaft, bearings, pulleys, belting, etc.; 2—3" Centrifugal Pumps; 2—6"x4"x6" Boiler Feed Pumps; 1—2½"x5" Horizontal Duplex Geared Pump; Plant Piping (Pipe and Fittings); 14—10"x4'10" T B&M Sections; 25—8¾"x4'8" TB&M Sections; 2—48"x7'6" 3/8" Plate Scrubber Tanks; 1—36"x6'6" 5/16" Plate Accumulator Tanks; 1—36"x6'6" 1/2" Plate Accumulator Tanks; 4—12"x11'0" Welded Pipe Drips; 1—16"x 10'6" Welded Pipe Drips; 3—12"x6'0" Welded Pipe Drips; 1—12"x8'0" Welded Pipe Drip; 1—48"x7'0" 3/16" Plate Accumulator; 1—24"x25'0" Vertical Steam Still; 1—16⅝"x20'0" TB&M Section; 1—23'x42'6" 40' Wall Wood Frame Galvanized Cooling Tower; 2—9'x35' ¼" Plate Stock Tank; 1—9'x35'¼" Plate Stock Tank (bad); 3—10'x40'¼" Plate Stock Tank; 2—9'x20' Storage Tanks; 1—4'x4'x5' ¼" Plate Mixing Vat; 2—75 HP Oil Field Type Boilers; 1—2 Stage Air Compressor, Pennsylvania 3-A; 4—12"x12'0" Welded Casing Air Tanks; 1—6'0"x40'0" Stabilizer Towers—30 Trays 40-lb. WP TB&M; TB&M Railroad Trackage; 5-car loading Rack; 8,000' 8" Std. Line Pipe; 6,000' 6" Std. Line Pipe; 10,000' 4" Std. Line Pipe; 14,000' 2" Std. Line Pipe; 3—Meters, 4 Regulators, Fittings on Field Lines, etc.; Meters and 5 Regulators Plant installation; 5—Recording and Indicating Instruments; Laboratory Equipment, Tools; 1—48" Ereco Stabilizer; 4—8"x 5"x12" Worthington Simplex Pumps; 1—7'x 37' Storage Tank; 1—8'x35' Storage Tank; 1—8'x35' Storage Tank; 3—48"x10' Propane Storage Tanks; 3—48"x20' Vertical Treating Tanks; 1—48"x6' Settling Tank; 1—Cement Mixer. Plant No. 10, located in Little River Pool, Oklahoma, in Southeast Quarter of the Southeast Quarter (SE¼ SE¼) of Section Thirty-five (35), Township Eight (8) North, Range Six (6) East, Seminole County, Oklahoma, 1—Compressor Building; 1—Pump Building; 1—Office Building; 1—Dwelling House; 5—180 HP Clark Twin Gas Engines direct connected to compressors; 1—80 HP Clark Gas Engine; 1—3 KW GE Generator, 110 V. DC; 1—7 KW GE Generator, 125 V. DC; Vapor Proof Fixtures, conduit, wire, etc.; 36'x2 15/16" Steel Line Shaft, Bearings, Pulleys, Belting, etc; 3—4" Worthington Centrifugal Pumps—4M; 3—3" Worthington Centrifugal Pumps—3M (robbed); 1—2" Goulds Pumps; 1—4"x4" Vertical Triplex Pumps (Gasoline); 1—2½" x4" Horizontal Duplex Pump; Plant Piping (Pipe and Fittings); 2—48"x7'5/16" Plate Scrubber Tanks; 1—30"x9'6½" Plate Scrubber Tanks; 1—36"x7'0⅝" Plate Accumulator Tank; 6—10"x4'10" TB&M Sections; 2—20'0" x42'0" 28' Wall wood frame galvanized iron cooling tower; 1—18'0"x30'0" 14' Wall wood frame galvanized iron cooling tower; 1—20'x20'x6'6" Deep Concrete Hot Well; 2—5'x 36'¼" Plate Stock Tanks; 1—1,000-bbl. Bolted Steel Tank; 3—75 HP Boilers Oil Field Type; 1— 60 HP Boiler Oil Field Type; 2—Water Wells; 1—10 HP F. & M. Gas Engine; 1—36"x6'0" ¼" Plate Accumulator Tank; 1—30"x7'0"¼" Plate Accumulator Tank; 6,250 ' 12" Std. Line Pipe; 1,500' 6⅝" 20-lb. Casing; 6,000' 6" Std. Line Pipe; 1,000' 5 3/16" 17-lb. Casing; 8,500' 4" Std. Line Pipe; 20,00' 3" Std. Line Pipe; 10,000' 2" Std. Line Pipe; Meters, Regulators, Drips, Fittings on Field Lines; Meters and Regulators, Plant installation; Recording and Indicating Instruments; Laboratory Equipment; Tools; Warehouse Stocks; 1—Ereco 48" Steam Still; 1—Ereco 60" Absorber; 1—7 Bay Pritchard Cooling Tower; 1—30"x20' Tall Absorber; 3—3 Pass GR Sections; 2—3 Pass GR Sections; 6—1 Pass GR Sections; 1—GR Preheater; 4—GR Heat Exchangers; 2—Newton Heat Exchangers; 3—6"x6"x6" Pumps;1—4½x3x4 Pump; 1—5-bbl. Steel Tank; 1—48"x12' Scrubber; 1—60"x60" Accumulator Tank; 1—48"x5' Accumulator Tank; 1—5'x6' Oil Vent Tank; 2—90 HP Terry Turbines connected with 3 Centrifugal pumps; 1—30 HP Terry Turbine connected with 2 Centrifugal pumps; 1—Chicago Pneumatic Air Jammer direct connected to 10"x 12" Cylinder. Plant No. 11, located at Clearview, Oklahoma, in Northwest Quarter of Northwest Quarter (NW¼ NW¼) of Section Thirty (30), Township Eleven (11) North, Range Eleven (11) East, Okfuskee County, Oklahoma, 1—Compressor Building (bad condition); 1—Pump Building; 1—Frame Warehouse Shack; 1—Frame Office Building; 1—35 HP Foose Gas Engine Dismantled (junk); Plant Piping (Pipe and Fittings); 9—10"x4'8" TB&M Sections Low Stage; 20—8¾"x4'8" TB&M Sections High Stage; 1—36"x10'6" 9/16" Scrubber Tank; 1—48"x9'6" 5/16" Plate Scrubber Tank; 1—6⅝" Heat Exchanger Section; 1—48"x20' Vertical Treating Tank; 1—18'x18'x7'6" Deep Hot Well; 1—8'x36'¼" Plate Stock Tank; 1—4'x40'0" TB&M Gasoline Stabilizer; 2—Regulators. Plant No. 13, located at Little River Pool, Oklahoma, in Northwest Quarter of Southwest Quarter (NW¼ SW¼), Section Eleven (11), Township Seven (7) North, Range Six (6) East, Seminole County, Oklahoma, 1—Compressor Building; 1—Pump Building; 1—Garage; 1—Frame Dwelling 1—400 HP Twin Tandem Engine direct connected (robbed); 3—180 HP Clark Twin Gas Engines direct connected (robbed); 1—90 HP Single Cycle Auxiliary Power; 1—7½ KW F. & M. Generator; Vapor Proof Fixtures, Switchboard, Ammeter, Volt Meter, Wire, etc.; 20' 2 15/16" Steel Line Shaft, Couplings, Pulleys, Bearings; 3—3" Worthington Centrifugal Pumps (2 robbed); 1—4x4 Deming Triplex Pump; Plant Piping (Pipe and Fittings); 1—8¼"x4'8" TB&M Closed Type Gas Cooler; 14—10"x4'8" TB&M Low Stage Gas Coolers; 36—8"x4'8" TB&M High Stage Gas Coolers (junk); 1—8'x10'⅝" Plate Scrubber Tank; 1—54"x7'6" 5/16" Plate Accumulator Tank; 1—20'x32'x28' Wall Wood Frame Galvanized Iron Cooling Tower; 1—22'x32'x28' Wall Wood Frame Galvanized Iron Cooling Tower; 1—18'x18'x 8' Hot Well; 1—40 HP Steam Boiler (junk); 1—200' Water Well; 1—160' Water Well pumped with Jack; 1—F&M Geared Pump Jack; 2—Ingersoll-Rand Air Compressors (1 robbed); 5—12"x12' Welded Air Storage Tanks; Field Pipe Lines and Fittings; 1—400 HP Gas Engine; 1—180 HP Gas Engine; 1—80 HP Gas Engine; (The 400 HP Gas Engine, the 180 HP Engine and 80 HP Gas Engine have an encumbrance thereon of approximately $7,000.00 and only the equity in said gas engines will be offered for sale).

You are further advised that at the time sale of the above described plants and equipment is held, gas contracts in connection with the Bowlegs Plant and described as follows, to-wit, will be sold: Seller, Atlantic Oil Producing Co.; Lease Description, Baker—40 acres, Section 10-8-6; Fleet—40 acres, Section 23-8-6; Grayson—40 acres, Section 13-8-6. Date of Contract, 5-27-27. Expiration of Contract, Term of Lease.

Gas Contracts in connection with the plant at Little River Pool will be offered for sale, same being described as follows, to-wit: Seller, Black Oil & Oil. Lease Description, Nitz—80 acres, Section 35-8-6; Date of Contract, 11-5-27; Expiration of Contract, Term of lease. Seller, Blackwell Oil & Oil; Lease Description, Baker—40 acres, Section 11-7-6; Date of Contract, 6-21-28; Expiration of Contract, Term of lease. Seller, Blackwell Oil & Oil; Lease Description, Thomas—30 acres, Sec. 11-7-6; Date of Contract, 11-8-29; Expiration of Contract, Term of lease. Seller, Gypsy Oil Co.; Lease Description, Campbell—40 acres, Sec. 36-8-6; Date of Contract, 3-14-28; Expiration of Contract, Yearly—60 days' notice. Seller, Gypsy Oil Co.; Lease Description, Potty—40 acres, Sec. 35-8-6; Date of Contract, 3-14-28; Expiration of Contract, Yearly—60 days' notice. Seller, Mid-Continent Petroleum Corp., Lease Description, Wadsworth—80 acres, Section 36-8-6; Date of Contract, 10-17-28; Expiration of Contract, Term of lease, 60 days' notice. Seller, Prairie Oil & Gas Co.; Lease Description, Chilcoat—40 acres, Section 25-8-6; Date of Contract, 2-15-28; Expiration of Contract, Term of Lease (Yearly renewal). Seller, Prairie Oil & Gas Co.; Lease Description, Coker—80 acres, Section 1-7-6; Date of Contract, 1-28-29; Expiration of Contract, Yearly. Seller, Prairie Oil & Gas Co.; Lease Description, House—40 acres, Section 2-7-6; Date of Contract, 6-23-28; Expiration of Contract, Yearly. Seller, The Texas Company; Lease Description, Brooks B—120 acres, Section 25-8-6; Date of Contract, 10-5-28; Expiration of Contract, Two years—thereafter 60 days' notice. Seller, The Texas Company; Lease Description, Coker—80 acres, Section 1-7-6; Date of Contract, 3-21-28; Expiration of Contract, One year—thereafter 60 days' notice. Seller, Tidal Oil Co.; Lease Description, House—10 acres, Section 1-7-6; Date of Contract, 2-25-28; Expiration of Contract, Two years—thereafter 60 days' notice. Seller, Phillips Petroleum Corp.; Lease Description, Davis—40 acres, Section 2-7-6; Date of Contract, 1-31-28; Expiration of Contract, One year—thereafter 60 days' notice. Seller, Shell Petroleum; Lease Description, Caesar—40 acres, Section 11-7-6; Date of Contract, 8-24-28; Expiration of Contract, Term of lease.

You are further notified that the plants and equipment and gas contracts will be each offered separately and together and will be sold to the highest bidder. You are further notified that at some of the plants, parts of the equipment which are not necessary to the operation of the plant may be offered for sale separately. All bidders will be required to deposit with Receiver at the conclusion of the sale ten (10) per cent of the amount of his bid in cash and the balance will be due and payable in cash when and if the sale is confirmed by the Court. Any further or detailed information concerning the property to be sold may be obtained from the undersigned Receiver or C. J. Smith at the offices of the Receiver, 204 Beacon Life Bldg., Tulsa, Okla.

You are further advised that the Plant No. 2 at Mannford, Oklahoma, will be advertised for sale and sold to the highest bidder on the 22nd day of June, 1931, at 10 o'clock A. M. The plant, equipment and contracts on Plant No. 7, located in Bowlegs Pool, will be offered for sale 23rd day of June, 1931, at 10 o'clock A. M. The plant, equipment, located at Little River Pool, Oklahoma, together with contracts, will be offered for sale on the 23rd day of June, 1931, at 2 o'clock P. M. Plant No. 11, located at Clearview, Oklahoma, will be offered for sale on 22nd day of June, 1931, at 4 o'clock P. M. Plant No. 13, at Little River Pool, together with gas contracts belonging thereto will be offered for sale on 23rd day of June, 1931, at 4 o'clock P. M.

Each of the plants and contracts will be offered for sale at the plant sites as above described and at the hour and day set forth.

J. H. Brooks, Receiver,
204 Beacon Life Bldg., Tulsa, Okla.
Yancey, Spillers & Fist,
Attorneys for Receivers, Tulsa, Okla.

CALIFORNIA FIELDS

(Continued from Page 40)

the General Petroleum is cleaning out well No. 2 on Needham tideland permit No. 55 preparatory to deepening it in search of better production. No. 3 Ferguson of the General Petroleum, another tideland project in the Rincon Field, was down 2,015 feet a few days ago.

Elwood Field

Only one well is expected to be completed in the Elwood Field of Santa Barbara County within the next 30 days, although the Barnsdall and Rio Grande may resume work on No. 18 Bell Luton in the near future. The only well under way at the present time is the Pacific Western's No. 8 on State tideland permit No. 92. No. 1 Bishop-Evans, an outpost of the Barnsdall and Rio Grande, is being cleaned out to bottom, 6,017 feet, and a production test to determine the potentiality of the Sespe formation in this area is scheduled to be made within the next few weeks. In the Santa Barbara Mesa Field, the Irvine Oil Co. is concluding preparations to make a production test on No. 1 Lowe at 1,835 feet. The Palisades Petroleum has just topped the oil sand in No. 3 Meigs and this well, together with Charles Starke's No. 1 Nye, should be given early production tests. The Chanslor-Canfield Midway Oil Co. has not yet succeeded in developing commercial production in No. 2-A Rincon, a deep wildcat located approximately midway between the Rincon and Ventura Avenue Fields, and the present outlook is not at all encouraging. This well, bottomed at 10,030 feet, has failed to respond to swabbing operations of several days' duration, and, while it has the distinction of being the deepest well drilled up to the present time, this is a negligible factor from a revenue producing standpoint.

Long Beach

Only one well was put on production in the Long Beach Field of Los Angeles Basin during the past week. This was the D'Angelo Oil Co.'s No. 6 Signal, brought in pumping 226 bbls. of clean 27.1 gravity oil per day from 5,276 feet. Drilling operations in the Long Beach Field are at a low ebb and with practically no new work being started, completions in the future will be very infrequent. Interest in the possibility of developing deep production in the town lot section of the Huntington Beach Field was revived this week when W. E. McCaslin cored what may be the top of a new zone below that discovered by the Superior Oil Co. several months ago. The oil sand cored in McCaslin's No. 17 Transport was in the bottom of the core barrel and its potentiality is therefore unknown at the present time. There is a possibility of course that this may be the top of the new zone and, on the other hand, it may be just another stringer. At any rate, work on this well will bear watching during the next few weeks.

The Trans California Oil Co. finished its No. 1 Venice, a new well in the Playa Del Rey Field a few days ago, but this project, bottomed in the deep Recreation zone, was only good for 180 bbls. of 21.6 gravity oil per day from 5,966 feet. The Pacific Coast Properties, Ltd., recompleted No. 1 Stone flowing 248 bbls. daily from 6,028 feet. The Continental Oil Co., failing to secure a natural flow in No. 24 Selover, a deep test in the Seal Beach Field of Los Angeles Basin, is completing preparations to put it on the beam at 9,054 feet. This well will be a small pumper at best. The Standard, with four strings of tools in operation in the West Coyote Field and another well under way at Inglewood, should be in a position to increase its list of producers in both areas soon. This work is not of a competitive nature but is being undertaken primarily to comply with lease requirements and at the same time keep the company's drilling crews employed.

The Shell is still working on the production test which it started a few days ago on No. 1 Porter Day, a deep test in the Weed Patch, or Mountain View Field of Kern County. Bailing operations yesterday brought about 25 bbls. of 34 gravity oil to the surface but this well, bottomed at 8,419 feet with a string of 4½-inch landed and cemented at 7,905 feet, does not have sufficient kick to result in a natural flow. The Shell is also conducting a production test on No. 1 Morris, another well in this field, and this well, located in Section 32-30-29 and bottomed at 5,784 feet, may result in commercial production. No. 1 Shell Duff of the Osborn Colter interests is also expected to be put on a production test shortly. The Irma Investment Co.'s test in the Tulare Lake Region in Section 7-23-20 blew out during the early part of the week but sanded up after blowing for about six hours from 1,347 feet with the result that very little damage was sustained by the equipment. This well is being drilled in an area where shallow gas production is possible.

ACCIDENT FATAL TO TWO

R. B. Brucker, aged 22, and A. G. Faris, aged 23, employes of the Pure Oil Co., were fatally injured in an automobile accident near Grand Saline, Tex., June 11.

E. R. CURTIN DEAD

LIMA, Ohio, June 13.—Emmet R. Curtin, Lima banker, utility and oil operator and philanthropist, died here this week. He was a director of the Iron Mountain Oil Co. of Tulsa, and came to northwestern Ohio from Pennsylvania 30 years ago as a pumper in the oil fields.

Gulf Coast vs. Russia and Rumania

Low Priced East Texas Crude Puts Coastal Refiners on a Competitive Basis With Foreign Refiners in Export Market

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, June 15.—Drastic price declines on both gasoline and kerosene in Gulf export markets this week have occupied the attention of the East Coast trade, and the week's developments indicate that the American Gulf market is now on a competitive basis with both Russia and Rumania. Several cargoes were booked for shipment to Europe at the new prices, which are ½ to 1½ cents per gallon under previous levels, and further business is in the making. According to reports received here from abroad following the declines at the Gulf, Russian exporters have declared that they will meet any price from the United States and beat it by a quarter cent per gallon. East Texas refiners, running on extremely low-priced crude, however, are now in an advantageous position to compete with Russia and Rumania for export business, and future developments will be watched by the industry here with a great deal of interest. Details of the radical realignment of Gulf prices appear in the export section of this report.

Atlantic Coastal Market

Aside from a slight weakening in the position of the refinery gasoline market, basic conditions in East Coast refined products markets underwent little important modification during the week. The undertone was still inclined to softness, reflecting the weak and unsettled market for crude, and buyers in most instances were showing a lack of confidence in the stability of present prices, and were operating along hand-to-mouth lines in most instances.

Unfavorable weather conditions during the greater part of the week brought about a slight reaction in the refinery gasoline market, and the previous inside posted price was lowered a quarter cent by some of the smaller interests here, with major sellers being compelled to meet this lowered price in some instances.

Operators who felt a few weeks ago that refined products quotations were scraping bottom have been discomfited by the further reductions in crude quotations since that time, with resultant further disturbance of the price basis for products, and these developments have tended to thoroughly demoralize market sentiment in most cases.

The trade here is watching with close interest the development of additional refinery capacity in the East Texas area. These new refiners, coming into the market with crude available at ridiculously low prices, and unburdened with inventories of either crude or products, are in a most advantageous position from the competitive standpoint and their competition is becoming increasingly apparent both in domestic and export marketing operations. East Texas gasoline is finding its way in larger quantities to Atlantic Coast markets, and by midsummer the movement East of this motor fuel is expected to attain sizable proportions, with Gulf Coast gasoline slated to replace the California product as a disturber of East Coast markets.

Refinery Gasoline

Cold and rainy weather throughout a large part of Atlantic Coast territory during the week reacted against a normal seasonal expansion in consumption, and jobbing demand for motor fuel fell off sharply during the period.

While principal sellers continued to quote U. S. Motor gasoline on the basis of 5¾ to 6 cents per gallon in tank car lots, f.o.b. refinery terminals, smaller sellers were quoting at 5½ cents per gallon, and considerable business was reported going through at that figure.

Prospects for a price recovery in refinery gasoline in this territory in the near future have been dimmed by the heavier offerings of East Texas gasoline for July shipment and onward. Considerable of this gasoline has been reported booked at prices which, on a laid down basis, figure out somewhat lower than the present spot market.

With increasing competition from outside gasolines assured, East Coast refiners plan to keep their plants operating on a curtailed basis throughout the summer season, and every effort will be made to further diminish storage holdings.

Most of the large eastern refiners have depreciated their inventory holdings of both crude and gasoline to the point where they are in position to meet whatever competition East Texas may afford during the balance of the year, but it is agreed that continued heavy output of East Texas crude, with resultant low-priced products from this oil, will tend to further retard the recovery of the general market, and will react to the disadvantage of the entire industry, from the earnings standpoint. On the other hand, any substantial cut in East Texas output, in furtherance of the industry's rationalization program, would react to the advantage of the American petroleum industry.

Tank Wagon Gasoline

Mixed trends are discernible in retail gasoline markets in the East, but weakness is still much in evidence, and competition in many sections of the territory is the keenest experienced in years.

Standard Oil Co. of New York during the week announced that tank wagon and service station gasoline prices had been cut 1 cent per gallon at Buffalo and Rochester, N. Y., the changes being effective June 8, bringing the Buffalo market down to 12.8 cents per gallon tank wagon and 14.8 cents per gallon service station, and the market at Rochester to 13 cents tank wagon and 15 cents service station. These revisions were made to meet local competition, the company announced.

Numerous other similar revisions have been made at other points in the eastern territory by various companies during recents months, all for the purpose of readjusting posted prices in line with local conditions, and price schedules show considerable variance in different parts of the territory.

Leading marketers are still posting 15.3 cents per gallon, including state tax, in the New York City district, but principal brands are selling at from 7 to 8 gallons for $1 at the pump, with independent and lower grade motor fuels available at 8 gallons for 95 cents and upward.

The boating season is just getting under way in eastern waters, and several of the large integrated companies which conduct extensive marketing operations in the marine field are getting considerable tank wagon and barge business from the marine filling stations in East Coast waters.

While large marketers continue to maintain the normal spread between their regular and premium grades of gasoline at filling stations, it is noticeable that most of the principal companies are emphasizing the quality of their regular product in current advertising activities, and it is reported that there has been a pronounced swing away from the premium grades in some sections of the territory, where the effects of the current business depression have been most seriously felt.

Kerosene

Rain and cooler weather during the week has stimulated demand somewhat, but refinery stocks are still topheavy in some quarters, and the tone of the market is decidedly easy. The posted price continues unchanged at 5½ cents per gallon, and, while most sellers still quote 5¼ cents as the inside price for tank car lots at the refineries, 5 cents has been done in some instances, it is reported, and the general market shows signs of going to that level.

Tank wagon kerosene business showed a decided spurt during the week due to the inclement weather, and gallonage recorded an appreciable gain in many instances. The summer resort business is beginning to open up, and marketers are feeling more optimistic with regard to the outlook for summer sales.

Lubs

The recent cut in Pennsylvania crude quotations has been followed by a further easing off in the position of the cylinder oil market this week and reductions of one-quarter cent per gallon were shown on 600 steam refined, now quoted at 15¾ to 16 cents per gallon; 635 steam refined, at 16¼ to 16½ cents, and 650 steam refined, at 18¾ to 19 cents per gallon, all in barrels, f.o.b. Bayonne. Other grades were unchanged in price, but market sentiment was mixed, and the firmer feeling which had been in evidence during the past fortnight appeared to have been largely dissipated.

Domestic demand for red and pale oils has held up fairly well during the week, but export buying has been extremely dull. While the market position is easy, refiners continue to quote the market unchanged at levels which have now been effective for a year or more past, at a time when the remainder of the market has been steadily declining.

Bunker Oil

The previous week's reduction to 85 cents per barrel for bunker "C" oil at Atlantic Coast terminals, the lowest price on record, has re-established local refiners from the competitive position, and it is now felt that the market has been thoroughly adjusted to changed conditions resulting from the current oversupply of oil.

With the market at its present level, it is not expected that the large companies operating transatlantic vessels in the New York trade will continue their recently inaugurated practice of bunkering some of their ships at European ports for the round trip, and the lowering of the local market is also expected to avoid the shipping of heavy supplies of cheap Gulf oil northward.

Refiners are holding to a curtailment policy in refinery operation in East Coast territory, and every effort is being made to hold down the output of heavy fuel oil, although the South American and Gulf Coast oil now being run at many East Coast plants shows a relatively high fuel oil content.

Standard Oil Co. of New Jersey this week announced a reduction of 10 cents per barrel to 80 cents in bunker fuel oil at Curacao.

Diesel Oil

The market remains unchanged at $1.55 per barrel, terminal, the record low price reached in the previous week's revisions in heavy oil quotations. There has been some improvement in demand reported during the week, and refiners are more optimistic regarding the outlook for Diesel oil.

Standard Oil Co. of New Jersey during the week announced that it had advanced Diesel oil posted prices 10 cents per barrel at St. Thomas, Cristobal and Balboa, the new price being $1.55 per barrel at these three ports, bringing those markets on a parity with principal East Coast ports in this country.

Gas Oil

Routine activity was again reported in the gas oil market last week and the posted price of 4 cents per gallon for 28 plus recycled oil in tank car lots, f.o.b. refinery terminals, remained unchanged.

Contract withdrawals of gas oil by large gas manufacturing companies in this area are fairly well maintained, and, while the use of bunker oil in gas manufacturing operations appears to be growing, gas oil still moves in sizable quantities for this purpose.

The outlook for gas oil over the balance of the year is decidedly bearish, so far as the price trend is concerned, as low-priced gas oil is plentiful both in California and at the Gulf, and oil has been offered from the latter area for shipment to New York over the balance of the year at a price that would figure out 4 cents per gallon or under, laid down here.

Paraffin Wax

A softer tone developed on the higher melting points in the market for fully refined, with 135-137 a.m.p. showing a drop of one-eighth cent per pound at 4½ cents, and 133-135 a.m.p. registering a corresponding decline to 4 cents per pound. Other grades were unchanged.

Domestic buyers continue rather bearish in their price views on the market, and are not slow to take advantage of the situation created by the current heavy oversupply of wax. Some of the bids submitted refiners for wax for later delivery are characterized as "ridiculous," but refiners are showing a disposition to consider firm offers made at prices somewhat in line with the spot market.

Low prices for wax are stimulating foreign sales, and traders here report a fairly active inquiry for prompt and nearby shipment material, for movement both from Atlantic Coast ports and out of the Gulf. These export sales, while made at low prices, are aiding materially in clearing burdensome surplus holdings of some refiners, it is said.

Export Market

The stalemate in the Gulf export market was terminated during the past week by a radical realignment of export quotation tables, and the reductions brought about an immediate quickening in business. Four cargoes, running between 7,000 and 9,000 tons each, were booked during the period for prompt and nearby delivery, and suppliers were figuring on considerable additional business.

Price readjustments virtually eliminated the former differentials between various grades of gasoline and kerosene at the Gulf, and it is expected that considerable export business lost during recent months to Russia and Rumania will be regained by coast sellers, although it is indicated that Russian sellers will further lower their prices in an effort to preserve the differential in favor of their products which has existed in recent months.

Revised quotations in the Gulf market, with the amount of decline from previous posted levels, follow: Gasoline, 58-60, 3½ cents per gallon, a drop of three-quarters of a cent; 60-62, 400 endpoint, 3⅝ cents, off seven-eighths of a cent; 61-63, 390 endpoint, 3¾ cents, off 1 cent

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GULF COAST FIELDS VS. RUSSIA AND RUMANIA

(Continued from Page 103)

per gallon; 64-66, 375 endpoint, 3¾ cents, off 1¼ cents; kerosene, 41-43 prime white, 3½ cents, off one-half cent; 44 water white, 3½ to 3¾ cents, off 1½ cents per gallon. Business booked during the week, aggregating between 28,000 and 36,000 tons, included 5,000 tons of kerosene and the balance largely 64-66, 375 endpoint gasoline.

Two cargoes of East Texas crude were booked for shipment to Europe during the week, July and August loading, at prices "under 55 cents per barrel, vessel, Gulfport," no additional details being available.

Petroleum Exports

Routine movement of refined petroleum products into export channels was reported locally during the week ended June 6, with the bulk of the shipments consisting of small quantities.

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	June 7	May 30	May 23
Gasoline	140,000	115,000	190,000
Naphtha	.....	815,000	235,000
Kerosene	270,000	48,000	12,000
Fuel oil	5,000	130,000	25,000
Lubricating oil	1,775,000	1,170,000	1,225,000
Petroleum, ref.	310,000	900,000	490,000
	Pounds		
Petrolatum	.....	.....	55,000
Paraffin wax	1,318,000	1,160,000	1,380,000
Refined	115,000	325,000	185,000
Scale	.....	220,000	975,000
Lubricating grease	775,000	530,000	600,000

Irregularity in refined products prices in domestic markets has been instrumental in making for continued quiet trading in the export market, and foreign buyers have been reluctant to close any forward shipment business until prices here show more stability.

Markets for cased gasoline and kerosene have weakened in sympathy with the softness prevalent in the bulk market at the Gulf, and exporting marketers report that foreign markets for cased products are still seriously disturbed by the offering of low-priced Russian cased oil in many instances. Russia is steadily expanding its marketing operations in the cased oil field, and steadily increasing price competition is now looked for from this source.

Considerable interest is still shown by French buyers in American crude for later delivery, but no important crude oil contracts were reported closed during the week.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended June 6 totaled 860,000 bbls., a daily average of 122,857 bbls., compared with 1,728,000 bbls., a daily average of 246,857 bbls. for the previous week and 6,202,000 bbls., a daily average of 200,065 bbls. for the month of May. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	65,000
Boston	30,000
New York	580,000
Philadelphia	145,000
Total	820,000
Daily average	117,143
At Gulf Coast ports—	
Tampa	40,000
Total	40,000
Daily average	5,714
At Atlantic and Gulf Coast ports—	
Total	860,000
Daily average	122,857
Daily average month of May	200,065

Distribution of total imports for the week ended June 6 follows:

Crude	477,000
Gasoline	214,000
Gas oil	52,000
Fuel oil	117,000

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended June 6 totaled 438,000 bbls., a daily average of 62,571 bbls., compared with 142,000 bbls., a daily average of 20,286 bbls. for the previous week and 1,465,000 bbls., a daily average of 47,258 bbls. for the month of May. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	55,000
New York	143,000
Philadelphia	190,000
Others	50,000
Total	438,000
Daily average	62,571
At Gulf Coast ports—	
All ports	None
At Atlantic and Gulf Coast ports—	
Total	438,000
Daily average	62,571
Daily average month of May	47,258

Distribution of total California oil receipts for the week ended June 6 follows:

Gasoline	438,000

Shipments of California refined products for Atlantic and Gulf Coast ports during the week (with identity of owner of tanker moving the oil where such owner is an oil company) follow:

To New York—78,300 bbls. of gasoline on the Pat Doheny (Richfield Oil Co. of California); 96,800 bbls. of gasoline on the Levant Arrow (Standard Oil Co. of New York).

Charter Market

More activity developed in the tanker charter market during the past week, particularly on the West Coast, where several fixtures were reported.

Considerable South American oil business was indicated by the week's fixtures.

No additional extensive chartering of tankers to move East Texas crude to the continent developed during the week, but negotiations for considerable tonnages of this crude for export are still under way, and it is expected that the tanker market will shortly reflect this development.

Fixtures reported during the week were as follows:

Steamer British Lantern (British), 10,090 tons deadweight, dirty, four months' time charter, 3s 7½d, commencing July.

Motorship Orkanger (Norwegian), 5,000 tons, clean, part cargo, California to Hamburg, prompt loading.

Motorship Sveaborg (Swedish), 12,500 tons cargo, three consecutive voyages, San Pedro to Valparaiso, August loading.

Motorship Woensdrecht (Dutch), 6,000 tons, clean, Constanza to Arzeu or St. Louis du Rhone, 6s 6d, June-July loading.

Steamer Graigwen (British), 130,000 cases of oil, Gulf to the River Platte, p.t., June-July.

Steamer Beaconlight (American), 75,000 bbls., Curacao to north of Hatteras, 14 cents, June loading.

Motorship Adellen (British), 4,735 net, California to United Kingdom-continent, 12s 6d, two voyages August and December.

Steamer Dixiano (American), 2,613 net, molasses, Porto Rico to north of Hatteras, two consecutive voyages, June loading.

Steamer Melpomene (French), 3,989 net, Gulf to French Atlantic, July loading.

Motorship Vanja (Norwegian), 3,663 net, Black Sea to Baltic, 9s 6d, July loading.

OPENS TENNESSEE OFFICE

Ford, Bacon & Davis Construction Corp. has opened an office at Covington, Tenn., in connection with the construction of the 100-mile extension of the Memphis Natural Gas Co.'s pipe line from Memphis to Jackson, Tenn. H. A. B. Prindle is the engineer in charge of the office and construction work.

FRED ENNIS DIES

HOUSTON, Tex., June 13.—Fred Ennis, 54, oil editor of the Houston Press, died at his home here this week. He came to Houston from Kingston, N. Y., 16 years ago.

YOU can pull up to a tight joint on Kennedy Malleable Iron Pipe Fittings without danger of splitting or cracking at the threads or in the body. They are made truly malleable by heating in annealing ovens for an ample length of time to assure complete annealing through and through each fitting.

Thorough malleability is but one of your many assurances of uniformly good fittings when you use Kennedys. They are carefully inspected and tested before shipment to make sure that each lot is perfect in every respect—without flaws inside or outside, with clean, sharp, accurate threading and generous chamfer, and with uniform and heavy galvanizing.

Order Kennedy Malleable Iron Fittings from your dealer—either a few to inspect and test, or enough for your next job, and you will soon see why specifying "Kennedy" assures speedy and profitable piping jobs.

The Kennedy Valve Mfg. Co., Elmira, N. Y.

Warehouses: New York City, 128-132 White St.; Chicago, 1335-1337 S. Clinton St.; San Francisco, 448-450 Tenth St.

Sales Offices: New York, Philadelphia, Cleveland, Atlanta, Chicago, Salt Lake City, El Paso, Seattle, Los Angeles and San Francisco

KENNEDY

VALVES-PIPE FITTINGS-FIRE HYDRANTS

EAST TEXAS OPERATORS ADOPT UNIT PLAN

(Continued from Page 13)

laid into the East Texas district by the Magnolia Pipe Line Co., Humble Pipe Line Co., Sinclair-Texas Pipe Line Co. and Sun-Yount Lee companies, with the Shamrock Oil & Gas Co. and Shell Pipe Line Co. as probable entries with large lines, and it is also reported that the Sinclair-Texas Pipe Line Co. will lay a direct trunk line from Gregg County to its refinery at Houston. This company is laying a 12-inch carrier from Gregg County to connect with the Prairie Pipe Line Co.'s main line at Teague station in Freestone County. The Prairie line runs both north and south, and Sinclair-Texas Pipe Line Co. will probably construct a lateral from the Cleburne station on the Prairie line or at Weatherford to connect with the old Pierce Petroleum Corp.'s refinery at Fort Worth which the Sinclair Consolidated Oil Corp. purchased several months ago.

A party of engineers has been making a survey of this refinery, and reconstruction of it will probably start within 30 or 45 days according to information gained from Sinclair offices. It will operate on crude run from the East Texas fields if and when reconditioned.

Representatives of three major companies, the Gulf, Humble and Sinclair, read statements from the presidents of their organizations, all of which declared in effect, "that they would support any fair and equitable plan worked out by the operators in the East Texas Field and the East Texas people."

Condemned Potential

Chairman Cranfill condemned the potential principle in determining allowable under proration orders, averring that the only fair and equitable procedure to determine allowable should be on a "per well basis."

Clifford Mooers of Longview declared that the recalcitrants who have not been obeying proration orders should agree to either cancel all outstanding contracts or fill them under the allowable given the field by the Railroad Commission.

"They should come in with 'clean hands' for they have been running much more oil than the rest of us and should understand that if this or any other plan is to work they cannot expect to run oil in excess of the allowable in order to fill outstanding contracts," Mr. Mooers declared.

Gene Germany of the Pilot Oil Co. declared "his concern had outstanding contracts, but if necessary would buy oil ratably to fill these contracts."

Mr. Mooers complimented Mr. Germany and said they should all follow suit. Pete Burton immediately declared, "my company has an outstanding contract and we are willing to follow Mr. Germany's lead and fill it ratably."

Roeser Asks Rejection

Charles F. Roeser, chairman of the East Texas proration committee, made an appeal to the assembly that the Cranfill plan be rejected, declaring that on May 1 there were but five operators outside proration where there were now about 35. "The Cranfill plan is complicated and will not work," he said, "and if we will concentrate on the idea of proration under the law and abide by the Railroad Commission's orders we will cure the deplorable condition now existing in 24 hours."

Mayor Malcolm Crim of Kilgore wanted to know what could be done if some of them failed to close down under the agreement. Mr. Cranfill answered that the committee could try to persuade the recalcitrants to get in line. J. K. Hughes of Mexia said the meeting looked "like one of those democratic railroad meetings."

"Let's not railroad this plan through," he said. "Many of the operators favor proration on some basis, and as to the big companies, we have to have them. We have to hear from those boys on this plan. Let them look at this program first. They have not said in any sense that they would indorse this program."

Mr. Nazro's Message

Underwood Nazro of the Gulf company sent this message: "I am in favor of any legal plan in this or any particular field, which has for its purpose the prevention of the waste of oil and gas, the intrusion of water, and as for the orderly development and operation of that particular field.

"I have not a copy of your proposed plan and only know of it from what I have read in the papers and what I have heard, but from this I think that if a limit is placed on the daily production of a well on a 20-acre tract, some maximum must be placed on the daily production of a well on a larger tract, regardless of the amount of acreage on which a well is located. This is for the purpose of preventing the waste of gas and water intrusion and also aiding the orderly withdrawal over the area of the field.

"The plans in effect in Yates, Ector, Hobbs and Darst are for the purposes stated, and I think that any plan formulated can be successful, only if its purpose is for the conservation of oil and gas, the prevention of waste and the orderly development and operation of that particular field and it must be fair as well as legal and under order of the Railroad Commission, otherwise I believe it will prove to be unsound and must necessarily fail."

Interesting Tabulation

One of the major companies' scouting department has compiled the following figures on the East Texas district showing the 20 leading lease holding companies, acres in proven area, cost of leases, etc.:

	20 leading companies	Others	Per cent	Total
Acres in proven area	76,900	45,100	63	122,000
Total cost of leases	$18,223,850	$6,314,000	73	$24,537,850
Producing wells	219	351	38	570
Drilling wells	179	341	34	520
Total cost of wells completed and completion of drilling wells at $25,000 per well	$9,950,000	$17,300,000	37	$27,250,000
Ultimate number of wells required to be drilled on basis of well to each 10 acres.	7,690	4,510	63	12,200
Ultimate cost of drilling and cost of leases.	$210,473,850	$119,064,000	64	$329,537,850
Barrels required to be produced before investment is returned, based on 35 cents per barrel oil	601,353,255.79	340,182,516.96	64	941,535,772.75
Ultimate recovery based on 12,000 bbls. per acre	922,800,000	541,200,000	63	1,464,000,000

This report shows that a great quantity of crude must be produced in the East Texas district before the original investment is returned to the leading companies operating in the district, also to the many operators who are drilling and producing, and this report is figured on the basis of the oil bringing an average of 35 cents per barrel, it now being down to around 15 cents per barrel where formerly it was posted at 67 cents per barrel by the major purchasers.

The report also shows that the 20 leading producers in the field owned 64 per cent of the 122,000 acres which are regarded as proven, while they had completed only 38 per cent of the 570 producing wells, and were drilling only 34 per cent of the 520 additional tests which were being drilled on June 1.

Total investment in leases by all operators in the district was estimated at $24,537,850 of which amount the 20 leading producers spent $18,000,000.

Counting one well drilled to each 20 acres will call for 6,100 wells, and by the time such a number of wells are drilled many of the first drilled will no doubt have gone dead, as is the case with a few at the present time, while many others are ready to be placed on the beam, with a few producing by air lift. Dissipation of pressure will therefore be the chief cause of drilling the wells as rapidly as possible, and regardless of the low price the oil is bringing, such dissipation will spur the operators to produce as much oil as possible from their leases before they require air lift or pumping, which has its consequential expense.

The Texas Oil Emergency Committee, which was organized during the past week, has called a conference to be held at Dallas on June 16 to discuss a proposed new oil conservation law, disregarding the meeting which was held in Tyler on June 11 and 15 to vote on Tom E. Cranfill's plan for curtailing activities and production in the East Texas district. The former committee is acting independently of those who have been sponsoring the Cranfill plan.

Members of the Emergency Committee will present proposed legislation drafted at the Dallas meeting to the state legislature of Texas in case the governor calls a special session of that body for the sole purpose of hearing representatives of the oil industry, their problems, and methods for enforcing proration, or other methods to aid the industry in Texas.

It is not yet known whether the governor will or will not call a special session of the legislature, as it will cause an added expense to the taxpayers, and many are decidedly against such a session, many of the operators opining that such legislation is not needed.

ENGINEERS CONSIDER PLIGHT OF INDUSTRY

By L. G. E. Bignell
Petroleum Engineering Editor

The fifth annual dinner of the Mid-Continent Section of the A.I.M.E. was held June 15 in Tulsa with over 50 members and their guests in attendance. In the absence of Harry H. Wright, chairman, David Trax, vice chairman, acted as toastmaster. C. L. Mapes was chairman of the program committee and after the speeches a motion picture of the fire at the Sinclair Oil & Gas Co.'s No. 1 Cole, near Gladewater, Tex., was shown.

E. B. Reeser, president of the American Petroleum Institute, stressed the need of the engineer now devoting his time and energy to assisting the petroleum industry, which he has helped to bring to its present efficiency and size, out of its present difficulties due to overproduction. He suggested that "they lend their support wholeheartedly, earnestly and without any evasion, toward the work of balancing production with supply."

He said: "Another phase in the development of stabilized prosperity in the petroleum industry is our failure to frame public opinion. Until recent years, the petroleum industry was conducted by a group of practical men who thoroughly understand their business as it appeared to them. They had, however, very little contact with people outside of the industry. Today, through the contact the engineer has with universities and channels outside of the industry, it is possible to create an entirely different idea of the petroleum industry than that which has heretofore prevailed."

H. M. Stalcup, vice president of the Skelly Oil Co., Tulsa, spoke from the viewpoint of the owner of small settled properties now sorely pressed because of the low price of oil. His suggestion was the application of the unit plan to groups of these old properties which would permit the economical operation of the individual wells and at the same time prolong the life of the pool.

Harry H. Smith, secretary and counsel for the Mid-Continent Oil and Gas Association, Tulsa, spoke on "The Engineer Saves—The Tax Collector Takes the Savings." After pointing out how the cost of government has increased since the war until it is now in excess of 12 billions of dollars a year, Mr. Smith quoted from authorities to show that over 40 per cent, or over five billions of dollars of this money collected as taxes was wasted each year.

"As a notable example," he said, "consider the gasoline tax. Recently the British government recommended an increase in the gasoline tax to 12 cents per gallon and it was argued in support of the movement that the oil industry had so reduced its prices to the public that even with the addition of a 12-cent tax the public would be paying no more for gasoline than it formerly did. In this country the tax in many states is now several times the refinery price and equals or exceeds the retail price. As the petroleum industry, with the aid of its engineers, has reduced the cost of finding, producing, refining and marketing oil and gasoline, the tax assessments have progressively absorbed the saving.

"This year with the gasoline tax at 5 cents per gallon in Oklahoma, the revenue is smaller than it was this time last year with a 4-cent tax. A 25 per cent increase in the tax has worked a decrease in the revenue although consumption is about the same. Excessive rates have made evasion so profitable that it is rapidly becoming the rule rather than the exception. The same thing may happen if income tax rates are made too high."

LIFTING CAPACITY OF NEW BOOM IS UNUSUAL

A new pipe-handling boom for mounting on the Model GH Trackson McCormick-Deering has been brought out by the W-K-M Co., Inc., Houston, Tex. It is of the live boom type and has improvements over previous models. This new boom, known as the Model AXM, is designed to handle greater lengths of pipe. It is sturdy in construction, well balanced, and properly mounted on the crawlers. The boom is installed and held close to the side of the crawler frame and the counterbalance weights are up out of the way, suspended on the opposite side from the boom. The result is greater lifting capacity with a minimum of counterweight.

This feature is regarded as important, since present-day pipe line methods call for the handling of much longer sections of field welded pipe for the tying-in operation that formerly were thought practical. On a recent pipe line construction job in the new East Texas Field, the Model GH Trackson with the new W-K-M boom handled up to 450 feet, or fifteen 30-foot sections of welded pipe, at one time, without the use of a stiff leg.

Trackson crawler tractors equipped with side booms of this type are suited to oil and gas pipe line construction as well as to pipe line work in the water works and sewerage fields.

GROUT ENGINEERING CO. ORGANIZED IN MONTREAL

The Grout Engineering Co., Ltd., was organized recently in Montreal, Canada, with D. L. Alexander of the Alexander Diamond Drilling Co., Montreal, as president; F. D. Sullivan, of the Sullivan Co., Memphis, Tenn., as vice president, and T. E. Ward, president of Oilfield Equipment Co. and the Sullivan Co., 30 Church Street, New York, as secretary-treasurer. The organization of this company was brought about through the successful results obtained by the use of Fissurseal, invented by F. D. Sullivan of the Sullivan Co., for foundation, dam and tunnel grouting and for walling up heaving and caving shale, and other loose formations in oil well drilling.

Difficult jobs encountered in Canada, Oklahoma, Texas and other fields have been overcome by the use of Fissurseal. The new company has offices in Montreal, Halifax, Winnipeg and Vancouver. An American company also has been organized as the Grout Engineering Co., Inc., a Delaware corporation with offices in Memphis, New York, Dallas, New Orleans, Los Angeles, Tulsa, El Paso, Seattle, Minneapolis and Chicago for the handling of the same type of work in the United States and foreign countries, and also to use any of the technical products manufactured by the Sullivan Co. including Konset. T. E. Ward is president of the company, F. D. Sullivan, vice president and Ralph Ley, secretary and treasurer.

IMPERIAL REDUCES PRICES

The Imperial Oil, Ltd., has reduced the price of tractor kerosene 5 cents a gallon and tractor lubricating oils 15 cents a gallon effective June 10.

Manufacture of Natural Gasoline

Little Change in Volume of Oklahoma City Field Output

Natural gasoline production in the Oklahoma City Field continues to be held considerably below the capacity of the plants and below the amount that could be produced. At present the field is making slightly less than 200,000 gallons of gasoline daily in 11 operating plants and this is below the production a year ago when considerably fewer wells had been completed.

The maintenance of the low schedule of production reflects the program of proration and also the unfavorable market for natural gasoline.

Manufacturing costs in the Oklahoma City area would normally have been low, due to the natural high gas pressure under which the plants are able to operate, eliminating the use of compressors. The plants in this field are also of comparatively large capacity. Despite these advantages, the intermittent flowing and shutting in of wells in order to follow out the proration program, has unbalanced the normal operating schedules and gasoline plant operations have been correspondingly penalized.

The Indian Territory Illuminating Oil Co., the largest manufacturer in the field, is making only about 80,000 gallons daily, including the production of the affiliated Cromwell and Wirt Franklin companies. The six plants included in the group have a capacity of 50,000,000 feet each and with the gas averaging better than 1 gallon per 1,000 feet, the extent of the reserve capacity is readily apparent. The company is operating five of these plants. The one on the Farley lease in which the Cromwell and Wirt Franklin interests own equal shares with the Indian Territory Illuminating Oil Co., has been temporarily shut down and the gas normally handled in this plant is processed through the Trosper plant, also jointly owned.

The gasoline made by rerunning the accumulation of condensate in the drips during the early development of the field has represented an important portion of the total gasoline. Because of the decline of this production to almost nothing, there is a better movement of the natural gasoline itself.

The practice of topping a portion of the high gravity crude produced in certain wells still under a high gas pressure, is the only factor which now adds to the total output of gasoline in the Oklahoma City Field in so far as the natural gasoline plant operations are concerned. This is being done by the Sinclair Oil & Gas Co. and tends to increase the outlet for natural gasoline rather than replace it as the finished gasoline is a stabilized motor fuel and is sold for direct consumption.

NATURAL GASOLINE PLANT OPERATIONS IN THE OKLAHOMA CITY FIELD

Company, location—	Maximum gas capacity cu.ft. daily	Present daily gasoline prod.
I.T.I.O., Bodine	50,000,000	16,000
I.T.I.O., Button	50,000,000	16,000
I.T.I.O., Verne	50,000,000	16,000
I.T.I.O., Jones	50,000,000	16,000
I.T.I.O. and Cromwell-Franklin interests, Farley	50,000,000	down
I.T.I.O. and Cromwell-Franklin interests, Trosper	50,000,000	16,000
Phillips, SW, 32-11-2w.	50,000,000	30,000
Phillips, SW, 1-11-3w..	50,000,000	35,000
Shell, Petty	50,000,000	10,000
Wirt Franklin, Lowry	40,000,000	12,000
Sinclair, NW, 30-11-2..	100,000,000	20,000
Amerada, SE, 30-11-2w.	40,000,000	5,000
Coline, Olds	7,500,000	3,000
Total		195,000

ONLY SMALL DECLINE SEMINOLE NATURAL GASOLINE PRODUCTION

Although several plant consolidations have been made in the Seminole area, the production of natural gasoline in this field shows only a small decline in volume compared to that six months ago. A natural decline in the gas pressure has been witnessed and accounts for some of the loss but compared to many predictions made early in the development of the field the gas pressure has been maintained unusually well. This is probably due in part to the practice of using gas lift in which case a back pressure is held on the producing sands.

The average daily output of natural gasoline in the Greater Seminole area approximates 556,370 gallons daily or nearly 40 per cent of the total produced in Oklahoma.

The newer Oklahoma City Field was expected to even surpass this mark and sufficient plant capacity was built to handle a larger production but proration has kept the actual production considerably below that of the Seminole area. At present the Oklahoma City Field shows an output of 195,000 gallons daily.

Comparing the production of the Seminole Field at present with that six months ago, a decline of 22,000 gallons daily is shown. The Earlsboro and the Little River areas show the greatest decrease in production among the various pools which make up the Greater Seminole Field.

The plants in the Seminole City area are maintaining their normal volume of production. This is being done by the constant extension of gathering lines and the exchange of gas to favor the large plants in this area.

Several consolidations have taken place among the plants in the field. In the Seminole City area the Empire Oil & Refining Co. has consolidated the operations of its Wilson and James plants at the Wilson plant. In this same area the Shell Petroleum Corp. shut down its plant. This company has also shut down its plant in the St. Louis-Pearson area and is now operating only in the Mission Pool.

The Maud area has shown the greatest decline in activities, two plants having been shut down. One of these is the Forrest E. Gilmore Co. plant and the other the Barnsdall Oil Co. plant.

NATURAL GASOLINE PRODUCTION IN GREATER SEMINOLE
(Net gallons per day)

	Seminole City	Bowlegs	Earlsboro	Little River, Asher	St. Louis, Pearson, Konawa	Maud	Mission	Total
Amerada Pet. Corp.	15,000	.....	14,000	.....	.....	17,000	.....	46,000
Barnsdall Oil Co.	.....	.....	16,600	.....	.....	S.D.	.....	16,600
Carter Oil Co.	60,000	20,000	20,000	25,000	.....	.....	.....	125,000
Crosbie & Moran	.....	.....	.....	.....	20,000	.....	.....	20,000
Empire O. & R. Co.*	15,000	20,000	.....	15,000	12,000	9,000	.....	71,000
Forrest E. Gilmore Co.	.....	3,000	.....	3,500	.....	S.D.	.....	6,500
Gypsy Oil Co.	.....	.....	.....	22,670	.....	.....	14,700	37,370
Phillips Pet. Co.	.....	.....	.....	8,000	.....	.....	.....	8,000
Magnolia Pet. Co.	.....	.....	6,300	.....	15,300	.....	.....	21,600
Pure Oil Co.	6,800	1,200	.....	3,300	.....	.....	.....	11,300
Powers, M. F.	.....	.....	.....	.....	4,400	.....	.....	4,400
Shell Pet. Corp.	S.D.	.....	.....	.....	S.D.	.....	12,000	12,000
Sinclair O. & G. Co.	66,000	40,000	.....	.....	30,000	.....	.....	136,000
Skelly Oil Co.	.....	.....	25,000	.....	.....	.....	.....	25,000
Victor Gasoline Co.	1,600	5,000	.....	9,000	.....	.....	.....	15,600
Total production	164,400	89,200	81,900	86,470	81,700	26,000	26,700	556,370

*Includes production of Indian Territory Illuminating Oil Co.

ANNOUNCE NEW COMMITTEES OF NATURAL GASOLINE ASSOCIATION

New committees of the Natural Gasoline Association of America have been named by S. S. Smith of the Shell Petroleum Corp., newly elected president. These committees will serve for one year. The co-operative effort shown among the individual committee members has made the association distinctive in the carrying out of a general program.

The favorable results of the research committee's work under the supervision of Doctor Brown of the University of Michigan may be taken as an example. The standardization of gas contract forms, the standardization of gas testing, the general adoption of the Reid vapor pressure test method, the formulation of an improved system of natural gasoline specifications and the move to standardize plant equipment within practical limits, are some of the other problems handled by committees.

The personnel of the new committees appear below:

NATURAL GASOLINE ASSOCIATION OF AMERICA
COMMITTEES 1931-1932

EXECUTIVE COMMITTEE		
S. S. Smith, chairman	Shell Petroleum Corp.	Tulsa, Okla.
G. M. Campbell	United Gas Public Service Corp.	Houston, Tex.
George E. Edgett	Carter Oil Co.	Tulsa, Okla.
E. R. Filley	The Texas Company	Tulsa, Okla.
E. R. Lederer	Texas Pacific Coal & Oil Co.	Fort Worth, Tex.
M. E. Mockley	Amerada Petroleum Corp.	Tulsa, Okla.
D. C. Williams	Continental Oil Co.	Ponca City, Okla.
FINANCE COMMITTEE		
D. C. Williams, chairman	Continental Oil Co.	Ponca City, Okla.
G. M. Campbell	United Gas Public Service Corp.	Houston, Tex.
E. R. Filley	The Texas Company	Tulsa, Okla.
E. R. Lederer	Texas Pacific Coal & Oil Co.	Fort Worth, Tex.
M. E. Mockley	Amerada Petroleum Corp.	Tulsa, Okla.
ECONOMICS COMMITTEE		
E. L. Peck, chairman	Empire Oil & Refining Co.	Bartlesville, Okla.
George P. Bunn	Phillips Petroleum Co.	Bartlesville, Okla.
J. R. Jarvis	Lone Star Gas Co.	Dallas, Tex.
W. J. Moran	Crosbie & Moran, Inc.	Tulsa, Okla.
W. E. Reardon	Columbian Gasoline Corp.	Monroe, La.
S. S. Smith	Shell Petroleum Corp.	Tulsa, Okla.
GAS CONTRACT COMMITTEE		
T. R. Goebel, chairman	Skelly Oil Co.	Tulsa, Okla.
D. C. Williams, vice chairman	Continental Oil Co.	Ponca City, Okla.
I. J. Brook	United Gas System	Houston, Tex.
J. W. Cowles	Shell Petroleum Corp.	Tulsa, Okla.
A. W. Dwon	Crosbie & Moran, Inc.	Tulsa, Okla.
J. F. Dyer	The Henderson Co.	Tulsa, Okla.
S. J. Fraser	Prairie Oil & Gas Co.	Independence, Kans.
J. R. Freeman	Carter Oil Co.	Tulsa, Okla.
Conrad Franks	Amerada Petroleum Corp.	Tulsa, Okla.
Dean Hiatt	Texas Pacific Coal & Oil Co.	Thurber, Tex.
J. R. Jarvis	Lone Star Gas Co.	Dallas, Tex.
M. T. Kirk	Phillips Petroleum Co.	Bartlesville, Okla.
E. C. LeFevre	Empire Oil & Refining Co.	Bartlesville, Okla.
James Porter, Jr.	Indian Terr. Illuminating Oil Co.	Bartlesville, Okla.
G. L. Pitcher	The Texas Company	Tulsa, Okla.
L. G. Rheinberger	Sinclair Oil & Gas Co.	Tulsa, Okla.
LIQUEFIED GAS COMMITTEE		
G. G. Oberfell, chairman	Phillips Petroleum Co.	Bartlesville, Okla.
A. E. Koenig, vice chm.	United Gas Public Service Corp.	Shreveport, La.
R. E. Baker	Shell Petroleum Corp.	Tulsa, Okla.
R. E. Cornwell	Carbide & Carbon Chemicals Corp.	Tulsa, Okla.
M. L. Haider	Carter Oil Co.	Seminole, Okla.
John L. Hill	Continental Oil Co.	Ponca City, Okla.
H. J. Hunter	Columbian Gasoline Corp.	Fairbanks, La.
J. R. Jarvis	Lone Star Gas Co.	Dallas, Tex.
Emby Kaye	Skelly Oil Co.	Tulsa, Okla.
F. M. Neely	Crosbie & Moran, Inc.	Tulsa, Okla.
W. W. Robinson, Jr.	The Texas Company.	Long Beach, Calif.
Ed L. Stauffacher	Empire Oil & Refining Co.	Bartlesville, Okla.
E. A. Wooden	Sinclair Oil & Gas Co.	Tulsa, Okla.

(Continued on Page 118)

G. M. DAVIDSON CHIEF ENGINEER NEW GAS CO.

G. M. Davidson, general superintendent of natural gasoline plants for the Empire Oil & Refining Co., has been named chief engineer for the Natural Gas Co. of America and will move to Chicago July 1 to take up his new work. This company will operate and maintain the 4-inch natural gas line extending from the Panhandle Field of Texas to Chicago, supplying intermediate points in Texas, Kansas, Nebraska, Iowa and Illinois.

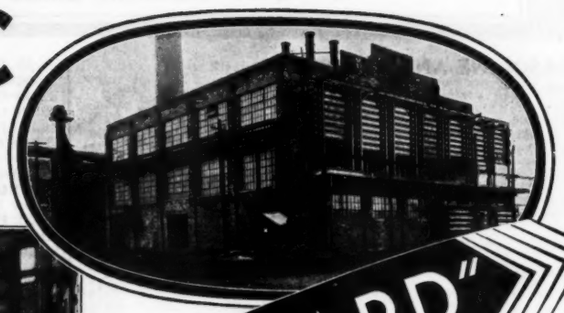
At such a time as the company secures outlets in the more distant industrial areas, the pipe line system will be extended, and tentative plans have been made for supplying Indianapolis and Detroit through lines out of Chicago.

BUILD SOLID CO, PLANT

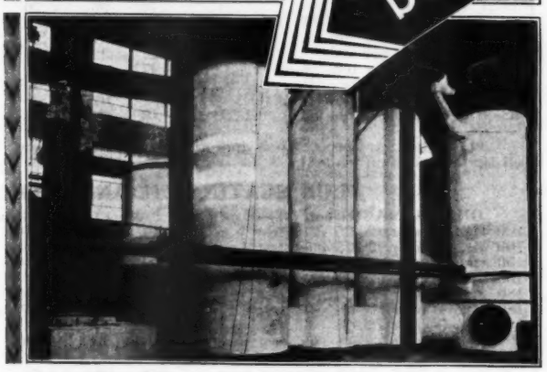
W. B. Moran, of Crosbie and Moran, and associates are building a "dry-ice" plant in Tulsa which will utilize natural gas as the means of producing the carbon dioxide gas which in turn will be recovered, purified, compressed and made into the liquid and solid form to be used both commercially and possibly for household use to replace ice. This plant will be the first to be built in Oklahoma and is the result of a thorough study of operating and marketing conditions in the territory. The plant is expected to be completed by July 1 and will be in operation shortly thereafter. The equipment was designed and fabricated by the Jackson Engineering Co.

In the operation of the plant a heat balance has been arrived at whereby the heat generated by the burning gas in the formation of carbon dioxide will be utilized to produce the power needed to carry on the processing.

SULFURIC ACID PLANT



"built by LEONARD"



THIS modern acid contact unit just constructed for Merrimac Chemical Co., Inc., at Everett, Mass., is one of several Leonard plants recently completed in this country and abroad. The words "Built by Leonard" are your assurance that the finished plant will meet your particular requirements in every respect and produce a steady, dependable supply of high strength acid.

A Three-Fold Service

We offer a combination service that covers every phase of

Design—A knowledge of practical plans backed by sixteen years' experience.

Construction—A plant built to operate economically and efficiently.

Operation—Your personnel is trained to operate the plant or we can even arrange to operate it for you.

Leonard contact plants use Monsanto Vanadium Catalyst—the first commercially successful vanadium catalyst licensed to acid manufacturers in the United States.

Write for our booklet describing the service we have to offer. Ask us to figure with you on a sulfuric acid plant that will WORK.

LEONARD CONSTRUCTION COMPANY

37 South Wabash Avenue « « » » CHICAGO, ILLINOIS

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

OKLAHOMA (Group 3)—	June 16		June 9		June 2	
50-52 450 endpoint	.02⅜	.02½	.02⅝	.02⅞	.02¾	.03
56-58 450 endpoint	.02½	.02¼	.02¼	.02½	.02½	.02¾
58-60 437 endpoint (U. S. Motor)	.02¼	.02¾	.02⅝	.02¾	.02⅞	.03
60-62 437 endpoint	.02⅜	.02¾	.02½	.02¾	.02¾	.03⅛
60-62 400 endpoint	.02½	.02⅝	.02⅝	.03	.02⅞	.03¼
64-66 375 endpoint	.02¾	.03	.03	.03¼	.03¼	.03½
68-70 360 endpoint	.02⅞	.03¼	.03½	.03¼	.03⅝	.03⅝
64-66 437 endpoint (blend)	.02⅛	.02½	.02¼	.02½	.02½	.02¾
NORTH TEXAS—						
50-52 450 endpoint	.02¼	.02½	.02½	.02¾	.02¾	.03
58-60 450 endpoint	.02½		.02¼	.02¾	.02½	
58-60 437 endpoint (U. S. Motor)	.02⅛	.02½	.02⅝	.02⅝	.02½	.02¾
60-62 400 endpoint	.02⅜	.02¾	.02⅝	.02¾	.02⅝	.03¼
64-66 390 endpoint	.02½	.03	.02¾	.03	.03	.03¼
64-66 375 endpoint	.02¾	.03¼	.02⅞	.03¼	.03¼	.03½
68-70 360 endpoint	.02⅞	.03¼	.03⅛	.03¼	.03⅝	.04
64-66 437 endpoint (blend)	.02	.02½	.02¼	.02½	.02½	.02¾
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.02¾	.03	.02¾	.03	.03	.03¼
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.02⅝	.03	.02¾	.03	.03	.03¼
PENNSYLVANIA—						
52-54 Naphtha	.04½		.04¾		.04¾	.05
54-56 Naphtha	.04½		.04¾		.04¾	.05
58-60 Gasoline	.04¾	.04⅞	.04⅞	.05	.04⅞	.05
60 Gasoline	.05		.05⅛	.05¼	.05⅛	.05¼
62 Gasoline	.05	.05⅛	.05⅛	.05¼	.05¼	
64 Gasoline	.05⅛		.05¼	.05¾	.05⅛	.05¾
68-70 350 endpoint gasoline	.05½	.05¾	.06		.06¼	
CALIFORNIA—						
†54-58 437 endpoint (U. S. Motor) domestic	.03	.03½	.03	.03½	.03	.03½
†58-60 400 endpoint domestic gasoline	.03¼	.04	.03¼	.04	.03¼	.04
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.02⅜	.02½	.02½		.02⅞	.03
58-60 437 endpoint (U. S. Motor)	.02¼	.02¾	.02⅝	.03	.02½	.03
60-62 400 endpoint	.02¾	.03	.02¾	.03¼	.02⅝	.03
64-66 375 endpoint	.02¾	.03	.03¼	.03½	.03¼	.03½
64-66 437 endpoint (blend)	.02½	.02¼	.02¼	.02¾	.02½	.02¾
68-70 360 endpoint	.03⅜		.03½		.03½	
GULF COAST (Export)—						
58-60 U. S. Motor	.03½		.04		.04¼	
60-62 400 endpoint	.03⅝		.04¼		.04½	
61-63 390 endpoint	.03¾		.04½		.04¾	
64-66 375 endpoint	.03¾		.04¾		.05	

*Louisiana, Arkansas, Mississippi and East Texas delivery. †For local consumption.

NATURAL GASOLINE

OKLAHOMA (Group 3)—	June 16		June 9		June 2	
Grade A, 72-79.9, 375 e.p., rec. 90%	.01⅞	.02	.02		.02	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.01⅝		.01⅝	.01¾	.01⅝	.01¾
Grade B, 76-83.9, 375 e.p., rec. 85%	.01½		.01½		.01½	
Grade BB, 84-92, 375 e.p., rec. 85%	.01½		.01½		.01½	
Grade C, 80-92, 375 e.p., rec. 78%	.01½		.01½		.01½	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.01⅞	.02	.02		.02	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.01⅝		.01⅝	.01¾	.01⅝	.01¾
Grade B, 76-83.9, 375 e.p., rec. 85%	.01½		.01½		.01½	
Grade BB, 84-92, 375 e.p., rec. 85%	.01½		.01½		.01½	
Grade C, 80-92, 375 e.p., rec. 78%	.01½		.01½		.01½	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.01¾		.01¾	.02	.01⅞	.02
Grade BB, 84-92, 375 e.p., rec. 85%	.01⅝		.01⅝		.01¾	
Grade C, 80-92, 375 e.p., rec. 78%	.01⅝		.01¾		.01¾	
CALIFORNIA—						
75-78 375-390 endpoint	.02¼	.02¾	.02	.02¾	.02	.02¾
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.01⅞	.02	.02		.02	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.01⅝		.01⅝		.01¾	
Grade BB, 84-92, 375 e.p., rec. 85%	.01½		.01½		.01½	

BURNING OIL

OKLAHOMA (Group 3)—	June 16		June 9		June 2	
41-43 water white kerosene	.02¼	.02½	.02¼	.02½	.02¼	.02½
42-44 water white kerosene	.02⅜	.02¾	.02⅜	.02½	.02⅜	.02¾
NORTH TEXAS—						
41-43 water white kerosene	.02	.02¼	.02¼	.02⅜	.02¼	.02½
40-41 water white kerosene	.02		.02⅛		.02⅛	.02⅜
***NORTH LOUISIANA—**						
41-43 water white kerosene	.02⅝		.02¾		.02¾	.03
***ARKANSAS—**						
41-43 water white kerosene	.02½	.02⅝	.02¾		.02¾	.03
PENNSYLVANIA—						
43 Kerosene prime white	.03¾		.03¾		.03⅞	
45 Kerosene water white	.03¾	.04	.03⅞	.04¼	.04	
46 Kerosene water white	.04	.04¼	.04½		.04½	
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.03¼	.04¼	.03½	.04½	.04	.04½
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.02½		.02¼	.02¾	.02¾	.02½
42-44 water white kerosene	.02⅝		.02⅝	.02½	.02½	.02¾
GULF COAST (Export)—						
41-43 prime white	.03½		.03¾		.04	
44 water white	.03½	.03¾	.04¼		.05	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

OKLAHOMA (Group 3)—	June 16		June 9		June 2	
Below 18 gravity Fuel Oil, per bbl.	.25	.30	.25	.30	.25	.30
18-22 Fuel Oil, per bbl.	.27½	.35	.30	.35	.30	.35
20-22 Fuel Oil, per bbl.	.30	.35	.30	.35	.30	.35
22-26 Fuel Oil, per bbl.	.35	.40	.35	.40	.35	.40
24-26 Fuel Oil, per bbl.	.40	.45	.40	.50	.40	.50
26-30 Fuel Oil, per bbl.	.45	.50	.45	.55	.45	.55
28-30 Fuel Oil, per bbl.	.50	.55	.50	.60	.50	.60
32-36 Gas Oil (industrial)	.00¾	.01	.00¾	.01	.00¾	.01
32-36 Gas Oil (straw color, high cold test)	.00¾	.01	.00¾	.01	.00¾	.01
32-36 Gas Oil (straw color, low cold test)	.01⅜	.01½	.01⅜	.01½	.01¼	.01½
36-38 Distillate	.01⅜	.01⅝	.01⅜	.01⅝	.01⅜	.01⅝
38-40 Straw Distillate	.01½	.01¾	.01½	.01¾	.01½	.01¾

Note—Fuel oils over 40 cold test generally 5 to 10 cents per barrel less.

NORTH TEXAS—						
Below 20 gravity Fuel Oil, per bbl.	.20	.25	.22½	.27½	.25	.35
24-26 Fuel Oil, per bbl.	.25	.35	.30	.40	.30	.40
32-36 Gas Oil (industrial)	.00¾	.01	.00¾	.01	.00¾	.01
38-40 Straw Distillate	.01¼	.01½	.01¼	.01½	.01¼	.01½
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
30-32 Gas Oil (low cold test)	.01⅞	.02	.01⅞	.02	.02⅛	.02¼
***ARKANSAS—**						
33-36 Distillate	.02¼	.02½	.02¼	.02½	.02¼	.02½
30-32 Gas Oil	.01¾	.02	.01¾	.02	.02	.02⅛
16-22 Refinery Fuel Oil, per bbl.	.50	.55	.50	.55	.50	.55
GULF COAST (South Texas)—						
Gas Oil	.02½	.02¾	.02½	.02¾	.02½	.02¾
Bunker C Fuel (cargo lots), per bbl.	.60		.60		.60	.62½
Bunker C Fuel (small lots)	.70		.70		.80	
PENNSYLVANIA—						
30-34 Fuel Oil	.02½		.02½		.02½	
36-40 Fuel Oil	.02½	.02⅝	.02⅝		.02⅝	.02¾
CALIFORNIA—						
42-45 480 endpoint engine distillate	.03	.03½	.03	.03½	.03	.03½
15-19 Fuel Oil, Bunker (at tidewater), bbl.	.55	.80	.55	.85	.60	.90
15-19 Fuel Oil (cargo lots, at tidewater), bbl.	.55	.75	.55	.80	.55	.85
†15-19 Fuel Oil, f.o.b. tank cars	.30	.75	.30	.75	.30	.70
27 plus Diesel, per bbl.	.70	.95	.70	.95	.70	.95
30-34 Gas Oil	.70	.95	.70	.95	.70	.95
CHICAGO DISTRICT (Based on Group 3)—						
18-22 Fuel Oil, per bbl.	.22½	.27½	.25	.30	.30	.35
22-26 Fuel Oil, per bbl.	.27½	.32½	.30	.35	.35	.40
28-30 Fuel Oil, per bbl. (zero)	.47½	.52½	.50	.55	.60	.65
32-36 Gas Oil (industrial)	.00¾	.01	.00⅞	.01⅛	.00⅞	.01⅛
32-36 Gas Oil (zero)	.01⅛	.01⅜	.01¼	.01½	.01⅜	.01⅝
38-40 Straw Distillate	.01⅛	.01⅜	.01⅜	.01½	.01½	.01¾

*Louisiana, Arkansas, Mississippi and East Texas delivery. †Lowest priced fuel oil has high sulphur content.

LUBRICATING OIL AND WAX

OKLAHOMA (Group 3)—	June 16		June 9		June 2	
100 vis., 2 color, 20-25 cold test	.04½	.04¾	.04½	.04¾	.05	
100 vis., 3 color, 20-25 cold test	.04¼	.04½	.04¼	.04½	.04¾	.05
150 vis., 3 color, 20-25 cold test	.06¾	.07¼	.06¾	.07¼	.07	.07½
150 vis., 4 color, 20-25 cold test	.06	.06½	.06	.06½	.06	.06½
180 vis., 3 color, 23-28 cold test	.07¾	.08¼	.07¾	.08¼	.08	.08½
180 vis., 4 color, 23-28 cold test	.07½	.08¼	.07½	.08¼	.07½	.08½
180 vis., 5 color, 23-28 cold test	.07¼	.07½	.07¼	.07½	.07¼	.07½
200 vis., 3 color, 23-28 cold test	.08¾	.09¼	.08¾	.09½	.08¾	.10
200 vis., 4 color, 23-28 cold test	.08½	.09¼	.08½	.09¼	.08½	.09¼
200 vis., 5 color, 23-28 cold test	.08	.08½	.08	.08½	.08	.08½
240 vis., 3 color, 25-30 cold test	.10¾	.11¼	.10¾	.11¼	.11	.11½
240 vis., 4 color, 25-30 cold test	.10	.10½	.10	.10½	.10	.10½
240 vis., 5 color, 25-30 cold test	.09½	.10	.09½	.10	.09½	.10
280 vis., 3 color, 25-30 cold test	.12¼	.12¾	.12¼	.12¾	.12½	.13
280 vis., 4 color, 25-30 cold test	.11¼	.11¾	.11¼	.11¾	.11½	.12
280 vis., 5 color, 25-30 cold test	.10¾	.11½	.10¾	.11½	.11	.11½
Cylinder Stocks:						
600, steam refined, light green	.04	.05½	.04	.05½	.04½	.05½
600, steam refined, dark green	.02½	.03	.02½	.03	.03	.03½
190-200 vis., D color, Bright Stocks	.17		.17		.18	
150-160 vis., D color, Bright Stocks 0-10 c.t.	.13	.14	.13½	.14	.14½	.15
150-160 vis., D color, Bright Stocks 10-25 c.t.	.12½	.13	.12⅝	.13	.13¾	.14½
150-160 vis., D color, Bright Stocks 25-40 c.t.	.12¼	.13	.12½	.13	.13	.14
150-160 vis., E color, Bright Stocks	.12	.12½	.12¼	.12½	.13	.13½
Waxes:						
124-126 White Crude Scale Wax	.01¾	.02	.01¾	.02	.01¾	.02

All bright stock prices are for domestic movement.

PENNSYLVANIA—						
34 Neutral	.05½		.05½		.05½	
34 Sundebloom	.05		.05		.05¼	
36 Miners' Neutral	.05½		.05½		.05½	
150, 3 color	.15½		.15½		.15½	.16
180, 3 color	.18	.19	.18	.19	.18	
200, 3 color	.21		.21		.21	
220, 3 color	.23	.26½	.23	.26½	.23½	.26
600, steam refined	.07½	.08	.07½	.08	.07¾	.08
650, steam refined	.10¾	.11¼	.10¾	.11¼	.10¾	.11½
600, Pennsylvania Flash	.11½	.12½	.11½	.12½	.11½	.12
600, E filtered	.11	.12	.11	.12	.11	.11½
600, D filtered, Oil City	.15	.16	.15	.16	.15	.16
Pennsylvania Bright Stocks below 35 c.t.	.16½	.16½	.17		.17	
Pennsylvania Bright Stocks above 35 c.t.	.16		.16¼		.16½	
*122-124 White Crude Scale Wax	.02		.02		.02	
124-126 White Crude Scale Wax	.02		.02		.02	

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.05½		.05½		.05½	.06
200 vis., 3 color, pale oil	.07½	.07¾	.07½	.07¾	.07¾	.08
300 vis., 3 color, pale oil	.08¾	.09	.08¾	.09	.09	.09¼
500 vis., 3½ color, pale oil	.10	.10½	.10	.10½	.10¼	.10½
750 vis., 3¼ color, pale oil	.11½	.12	.11½	.12	.11¾	.12
1,200 vis., 3½ color, pale oil	.14	.14½	.14	.14½	.14¼	.14½
2 000 vis., 4 color, pale oil	.15	.15½	.15	.15½	.15¼	.15½
200 vis., 5-6 color, red oil	.06¾	.07	.06¾	.07	.07	.07¼
300 vis., 5-6 color, red oil	.08	.08½	.08	.08½	.08¼	.08½
500 vis., 5-6 color, red oil	.09¼	.09¾	.09¼	.09¾	.10½	.11¼
1,200 vis., 5-6 color, red oil	.13	.13½	.13	.13¼	.13¼	.13½
2,000 vis., 6 plus color	.15	.15½	.15	.15½	.15¼	.15½

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

CALIFORNIA—						
130 vis., 2½-3 color	.08	.08½	.09	.09½	.09	.09½
200 vis., 2½-3 color	.09	.10	.10	.10¾	.10	.10¾
300 vis., 3-3½ color	.10	.11	.10¾	.11½	.10¾	.11½
350 vis., 3½-4 color	.11	.12	.11½	.11¾	.11½	.11¾
400 vis., 3½-4 color	.12	.12½	.12¼	.12¾	.12¼	.12¾
Red Neutral:						
200 vis., 4½-5 color	.09½	.10	.09½	.10	.09½	.10
300 vis., 5-6 color	.10¼	.10¾	.10¼	.10¾	.10¼	.10¾
400 vis., 5-6 color	.11	.12	.11	.12	.11	.12
500 vis., 4½-5 color	.12¼	.13	.12¼	.13	.12¼	.13
500 vis., 5-6½ color	.12		.12	.12¾	.12	.12¾
600 vis., 6½ plus color	.13	.14	.13	.14	.13	.14

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	June 16		June 9		June 2	
Gasoline, U. S. Motor, 58-60, 437 e.p.	.05½	.06¾	.05¾	.06½	.05¾	.06½
Kerosene, water white, 41-43	.05¼	.05½	.05¼	.05½	.05¼	.05½
*Fuel Oil, Bunker "C," 41-43	.85		.85		.95	
†Fuel Oil, Diesel, 28-30, per bbl.	1.55		1.55		1.65	
Gas Oil, 28 gravity plus	.04		.04		.04	
25 pale Paraffin Oil, tank car	.10¼		.10¼		.10¼	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
280 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Domestic heating oil, min. 32 grav., tank car	.04		.04		.04	
Refined Wax:						
120-122 a.m.p., per lb.	.02⅞		.02⅞		.02⅞	
125-127 a.m.p., per lb.	.03⅛		.03⅛		.03⅛	
130-132 a.m.p., per lb.	.03⅝		.03⅝		.03⅝	
133-135 a.m.p., per lb.	.04		.04⅛		.04⅛	
135-137 a.m.p., per lb.	.04½		.04⅝		.04⅝	
Petrolatum in barrels in carload lots, per pound:						
Dark Green	.01¾		.01¾		.01¾	
Amber	.03		.03		.03	
Extra Amber	.03¼		.03¼		.03¼	
Cream	.06		.06		.06	
Lily White	.06¾		.06¾		.06¾	
Snow White	.08		.08		.08	

*Lighterage 5 cents a barrel extra. †Lighterage 6.5 cents a barrel.

NEW YORK (BAYONNE) EXPORT PRICES

	June 16		June 9		June 2	
600, steam refined cylinder stocks, in bbls.	.15¾	.16	.16	.16¼	.16	.16¼
635, steam refined	.16¼	.16½	.16½	.17	.16½	.17
650, steam refined	.18¾	.19	.19	.20	.19	.20
600, Pennsylvania Flash	.19½	.20	.19½	.20	.19½	.20
630, Pennsylvania Flash	.25¾	.26	.25¾	.26	.25¾	.26
600, Warren E	.19	.20	.19	.20	.19½	
600, Oil City E	.18	.18½	.18	.18½	.18½	
Light 140-150 Bright Stocks	.25	.26	.25	.26	.25	.26
Dark 140-150 Bright Stocks	.24	.25	.24	.25	.24	.25

LOS ANGELES EXPORT PRICES

	June 16		June 9		June 2	
Kerosene, water white	.04	.04½	.04	.04½	.04	.04½
*U. S. Motor Gasoline, 53-55, 437 e.p.	.03¼	.04	.03¼	.04	.03¼	.04
*58-62, 400 endpoint gasoline	.03½	.04¼	.03½	.04¼	.03½	.04½

*For coastwise shipment.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Rusk County, Tex. (April 6, 1931)* ..... $ .35
Corsicana heavy (June 3, 1931)† ..... .32
Other fields ..... See gravity table

*Posted by Panola Pipe Line Co. †Magnolia Petroleum Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties. See gravity table

WEST TEXAS

Iatan and Westbrook. Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Ector, Winkler and Pecos Counties* ..... $ .35
Lea County, N. Mex.† ..... .35

*The Texas Company, June 2, 1931. All other companies, June 3, 1931. †The Texas Company, June 2, 1931. All other companies, June 3, 1931.

ARKANSAS

Smackover, Ark. (all grades) (June 2, 1931)* ..... .37
Smackover, Ark. (all grades) (June 3, 1931)† ..... .25
Bellevue, La. (June 3, 1931) ..... .25
Urania (June 3, 1931) ..... .30
Calion, Ark., heavy (June 3, 1931)‡ ..... .37
East El Dorado, Ark. (June 3, 1931) ..... .25
Stephens, Ark. (June 3, 1931) ..... .30
Other fields ..... See gravity table

*Posted by The Texas Company on June 2, 1931, and by Gulf Refining Co. on June 3. †Posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co. on June 3. Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania by Louisiana Oil Refining Co. Calion by Gulf Refining Co.; East El Dorado by Gulf Refining Co. and Magnolia Petroleum Co. Stephens posted by Louisiana Oil Refining Co. and Atlantic Oil Producing Co.

GULF COAST

Grade A and Grade B classifications discontinued ..... See gravity table
Jennings, La. (June 3, 1931)* ..... $ .40
Lockport, La. (June 3, 1931)† ....
..... See Gulf Coast gravity table
Refugio light ..... See gravity table
Refugio heavy‡ ..... .44
Markham (June 2, 1931)‖ ..... .37
High Island (June 3, 1931)¶ ..... .40

*Gulf Refining Co. †Vacuum Oil Co. ‡Humble Oil & Refining Co. §The Texas Company. ¶Gulf Pipe Line Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (July 2, 1931)* ..... .37
Luling (July 3, 1931)† ..... .35
Mirando (July 3, 1931)‡ ..... .44
Pettus (July 3, 1931)‡ ..... .50
Salt Flat (July 3, 1931)‡ ..... .37
Thrall§ .....
Lytton Springs (Lockhart) See gravity table
Dobrowolski (Oct. 25, 1930)‖ .....
Same as Mid-Continent gravity scale up to and including 38-38.9°
Somerset .....
Same as Mid-Continent gravity scale up to and including 38-38.9°

*The Texas Company. †Magnolia Petroleum Co. ‡Humble Oil & Refining Co. §Thrall prices same as North Central Texas less 19⅛ cents per cwt. freight. ‖Grayburg Oil & Refining Co., Pioneer Oil & Refining Co. and Texas Petroleum Products Co. ¶Pioneer Oil & Refining Co.

EASTERN STATES
Joseph Seep Purchasing Agency
(Effective June 3, 1931)

Penna. Grade Oil in National Transit Lines (Pennsylvania) $1.50
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.35
Penna. Grade Oil in Eureka Pipe Line Lines (West Virginia) 1.25
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) 1.00
Corning Grade Oil in Buckeye Pipe Line Co.'s Line ..... .85
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 10, 1931). .80
Wayne District Oil in Cumberland Pipe Lines (April 23, 1931) 1.17

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.

Iles (Mar. 7, 1931):
33 gravity and above ..... $ .72
Under 33 gravity ..... .50
Fort Collins (June 2, 1931) ..... .30
Florence (June 2, 1931) ..... .27
Wellington (June 2, 1931) ..... .25
Dutton Creek (Oct. 28, 1930) 1.01
Rock Creek, Wyo. (June 2, 1931) ..... .45
Frannie, light (June 2, 1931) ..... .35
Frannie, heavy (June 2, 1931) ..... .25
Salt Creek ..... Mid-Continent gravity table
Big Muddy (June 2, 1931) ..... .40
Grass Creek, heavy (June 2, 1931) ..... .62
Grass Creek, light (June 2, 1931) ..... .62
Elk Basin (June 2, 1931) ..... .62
Lance Creek (June 2, 1931) ..... .75
Poison Spider (Mar. 5, 1931) ..... .70
Notches (Mar. 14, 1927) ..... .65
Hudson (June 2, 1931) ..... .65
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) 1.10
Osage (Apr. 15, 1931) ..... .98
Lost Soldier (Mar. 5, 1931) ..... .55
Hamilton Dome (Mar. 14, 1927) ..... .85
Greybull (Oct. 28, 1930) 1.25
Torchlight (Oct. 28, 1930) 1.25
Cat Creek (June 3, 1931) ..... .60
Pondera, Mont. (June 3, 1931) ..... .75
Sunburst, Mont. (June 2, 1931) ..... .85
Hogback, N. Mex. (June 2, 1931) ..... .65
Artesia, N. Mex. (June 3, 1931) ..... .25
Lea County, N. Mex. (June 3, 1931) ..... .25
Border, Mont. 1.55
Red Coulee, Alberta 1.55

Note—Salt Creek, Cat Creek, Dallas-Derby, Hudson, Greybull and Hogback posted by Midwest Refining Co. and the remainder by the Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia posted by Continental Oil Co. Border and Red Coulee posted

(Continued on Page 110)

CRUDE OIL GRAVITY TABLE

	Okla., Kans., North and Central Texas & East Central Texas	East Texas	N. La.-Ark.	Carson and Hutchinson Counties, Tex.	Gray County, Texas	Salt Creek, Wyo.	Gulf Coast
	1	2	3	4	5	6	7
Below 25 degrees	...	...	...	...	...	...	.44
25 to 25.9	...	...	...	...	...	...	.45
26 to 26.9	...	...	...	...	...	...	.46
27 to 27.9	...	...	...	...	...	...	.47
28 to 28.9	...	...	...	...	...	...	.48
Below 29	.25	...	25	...	...	...	...
29 to 29.9	.26	...	26	...	...	.26	.49
30 to 30.9	.27	...	27	...	...	27	.50
31 to 31.9	.28	...	28	...	...	28	.51
32 to 32.9	.29	...	29	...	...	29	.52
33 to 33.9	.30	...	30	...	...	30	.53
34 to 34.9	.31	...	31	...	...	31	.54
Below 35	...	25	...	21	24	...	...
35 to 35.9	.32	27	.32	.22	.25	.32	.55
36 to 36.9	.33	29	33	.23	26	33	.56
37 to 37.9	.34	31	.34	.24	.27	.34	.57
38 to 38.9	.35	.33	35	.25	.28	.34	.58
39 to 39.9	.36	35	36	26	29	34	.59
40 and over	.37	.37	.37	.27	.30	.34	.60

Column 1—Stanolind Crude Oil Purchasing Co., H. F. Wilcox Oil & Gas Co., Sinclair Refining Co., Barnsdall Refineries, Inc., Mid-Continent Petroleum Corp., Champlin Refining Co., Mid-Kansas Oil & Gas Co., Eason Oil Co., Standard Oil Co. of Kansas, Continental Oil Co., Pure Oil Co., Tidal Oil Co., Tidal Western Oil Co. and Empire Pipe Line Co., all on June 1. Magnolia Petroleum Co. on June 2, with the exception that Magnolia posted below 26 degrees at 23 cents; 26-26.9 at 23 cents; 27-27.9, 24 cents. The Empire Pipe Line Co. adopted the Magnolia's schedule on lower grades in Carter County, Oklahoma. The Texas Company adopted Stanolind schedule on June 2, Gypsy Oil Co., June 2; Gulf Pipe Line Co., June 3; and Humble Oil & Refining Co., June 3.

Column 2—The Texas Company on June 2, and Humble Oil & Refining Co. and Arkansas Fuel Oil Co. on June 3 announced the withdrawal of their posted prices in East Texas. Above posted prices are of Sinclair Refining Co., Gulf Pipe Line Co. and Magnolia Petroleum Co., effective May 26, 1931.

Column 3—The Texas Company, June 2; Standard Oil Co., Magnolia Petroleum Co. and Gulf Refining Co., June 3.

Column 4—The Texas Company, June 2, 1931; Humble Oil & Refining Co., Gulf Pipe Line Co., Continental Oil Co. and Magnolia Petroleum Co., June 3.

Column 5—The Texas Company, June 2; Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., and H. F. Wilcox Oil & Gas Co., June 3.

Column 6—Midwest Refining Co., June 1.

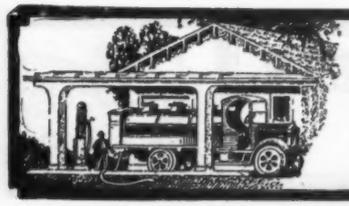
Column 7—Posted by The Texas Company, June 2; Gulf Pipe Line Co., Humble Oil & Refining Co., Vacuum Oil Co. Sun Oil Co. posted same prices on June 3 up to and including 35 gravity at 55 cents, but will pay only 55 cents for oil above 35 gravity.

CALIFORNIA CRUDE OIL PRICES

(Posted by Union Oil Co. March 30 and the Standard Oil Co. of California March 31)

	Alamitos Hts., Signal Hill, Seal Beach, Torrance, Athens, Rosecrans, Domingues, Santa Fe Springs, Montebello, Huntington Beach, East Coyote, Richfield, Brea-Olinda	Santa Paula	Orcutt	Coalinga, McKittrick, Kern River, Midway-Sunset, Elk Hills, Wasco Hills, Lost Hills
11 to 13.9	...	...	...	$ .50
14 to 14.9	$ .65	$ .60	$ .55	.55
15 to 15.9	.65	.60	.55	.55
16 to 16.9	.65	.60	.55	.55
17 to 17.9	.65	.60	.55	.55
18 to 18.9	.65	.60	.55	.55
19 to 19.9	.65	.60	.55	.55
20 to 20.9	.65	.58	.53	.53
21 to 21.9	.62	.56	.51	.51
22 to 22.9	.59	.53	.49	.49
23 to 23.9	.56	.50	.47	.47
24 to 24.9	.53	.47	.45	.45
25 to 25.9	.50	.44	.43	.43
26 to 26.9	.47	.41	.41	.41
27 to 27.9	.44	.38	.39	.39
28 to 28.9	.41	.35	.37	.37
29 to 29.9	.38	...	.35	.35
30 to 30.9	.35	...	...	...

For the time being the Union Oil Co. and the Standard Oil Co. will not post a schedule of crude oil prices for the Playa del Rey and Kettleman Hills Fields.



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns June 16

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago	14.0	14.0	3.0	9.0
Decatur, Ill.	14.4	14.4	3.0	9.0
E. St. Louis	13.7	13.7	3.0	8.2
Joliet	14.4	14.4	3.0	9.0
Peoria	14.4	14.4	3.0	9.0
Quincy	14.2	14.2	3.0	8.8
Davenport, Ia.	14.5	14.5	3.0	9.3
Des Moines	14.5	14.5	3.0	9.3
Keokuk	14.5	14.5	3.0	9.3
Sioux City	14.1	14.1	3.0	8.9
Duluth, Minn.	15.5	15.5	3.0	9.9
Mankato	15.1	15.1	3.0	9.7
Minneapolis	15.2	15.2	3.0	9.9
La Crosse, Wis.	16.2	16.2	4.0	10.0
Milwaukee	15.1	15.1	4.0	8.9
Madison	15.3	15.3	4.0	9.1
Detroit, Mich.	14.8	14.8	3.0	10.7
Grand Rapids	14.7	14.7	3.0	10.6
Saginaw	14.9	14.9	3.0	10.8
Evansville, Ind.	15.1	15.1	4.0	9.9
Indianapolis	15.3	15.3	4.0	10.1
South Bend	15.4	15.4	4.0	10.2
Fargo, N. D.	16.9	16.9	3.0	11.9
Huron, S. D.	16.3	16.3	4.0	10.7
Sioux Falls	15.8	15.8	4.0	10.4
K. C., Mo.	13.9	13.9	3.0	7.6
Springfield*	13.9	13.9	3.0	8.5
St. Louis*	12.9	12.9	3.5	8.3
St. Joseph	12.5	13.5	3.0	7.5
Wichita, Kans.	12.8	12.8	3.0	7.8
Bartlesville, Ok.	13.0	16.0	5.0	7.5

*State tax 2 cents, remainder city tax.

A third grade of gasoline, "Stanolind Blue," is sold at all major points at a price 2 cents or more below the price on the regular grade.

Effective April 15—Discounts on Q.D.A. on 1,000 gallons or more per month throughout territory: Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price.

Discount in Chicago division on 1,000 gallons or more per month: Red Crown Ethyl Gasoline, 4 cents off tank wagon price; Red Crown gasoline, 3½ cents off tank wagon price; Stanolind Blue gasoline, 2 cents off tank wagon price.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

PACIFIC COAST TERRITORY

	Gasoline			Kero.
	Wh'le's'e price	Retail* price	Incl'ds tax of	tank wagon
Fresno	13.0	10.0	3.0	17.0
San Francisco	14.0	11.0	3.0	15.5
Los Angeles	13.5	10.5	3.0	15.5
Reno, Nev.	22.0	20.0	4.0	19.0
Portland, Ore.	15.5	12.5	4.0	16.5
Seattle, Wash.	16.0	13.0	5.0	16.5
Tacoma	16.0	13.0	5.0	16.5
Spokane	20.0	17.0	5.0	20.5
Phoenix, Ariz.	14.0	16.0	5.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 6-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 3 cents plus a 2-cent special temporary discount subject to withdrawal at any time.

*Retail prices posted by Standard Stations, Inc., a subsidiary.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	12.0	16.0	4.0	8.0
Fort Worth	12.0	14.0	4.0	8.0
Houston	12.0	16.0	4.0	11.0
San Antonio	14.0	18.0	4.0	10.0
El Paso	13.0	17.0	4.0	12.0
Texarkana	16.0	16.0	4.0	11.0
Muskogee, Ok.	12.0	15.0	5.0	8.0
Okla. City	10.0	12.0	5.0	7.0
Tulsa	10.0	12.0	5.0	8.0
Ft. Smith, Ark.	15.0	15.0	5.0	11.0
Little Rock	16.0	16.0	6.0	11.0

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	12.9	12.9	4.0	9.25
McCook	16.0	17.75	4.0	10.75
Norfolk	15.75	16.75	4.0	9.75
N. Platte	16.75	17.75	4.0	10.50
Scottsbluff	16.0	16.0	4.0	10.25

Note—Dealers' discounts allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off station price; third grade, 1 cent off station price.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	18.0	18.0	6.0	12.5
Augusta	18.0	20.0	6.0	14.0
Macon	18.0	18.0	6.0	13.0
Savannah	18.0	18.0	6.0	12.0
Birmham, Ala.	16.0	18.0	5.0	13.0
Mobile	17.0	19.0	4.0	13.0
Montgomery	16.0	18.0	4.0	13.5
Clarks'le, Miss.	18.0	20.0	5.0	13.5
Jackson	16.0	18.0	5.0	11.0
Natchez	18.0	20.0	5.0	13.5
Gulfport	16.0	16.0	5.0	13.5
Vicksburg	16.0	18.0	5.0	11.0
Jack'ville, Fla.	17.0	18.0	6.0	12.0
Miami	18.0	20.0	6.0	13.0
Pensacola	16.0	18.0	6.0	13.0
Tampa	17.0	18.0	5.0	12.0
Lexington, Ky.	17.0	18.0	5.0	12.0
Covington	16.0	17.0	5.0	11.0
Louisville	16.0	17.0	5.0	11.0
Ashland	17.0	19.0	5.0	13.0
Paducah	17.0	18.0	5.0	11.0
Bowling Green	19.0	21.0	5.0	14.5
Corbin	18.0	19.0	5.0	15.0

A third grade, "Kyso Green," is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery, Birmingham and Mobile state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.	15.5	16.5	6.0	12.0
Baton Rouge	15.0	16.0	5.0	12.0
Alexandria†	16.0	17.0	6.0	12.0
Lafayette*	16.0	17.0	6.0	12.0
Lake Charles*	16.0	17.0	6.0	12.0
Shreveport	16.0	16.0	5.0	12.0
Knoxville, Tenn.	17.5	18.5	5.0	13.5
Memphis	13.0	14.0	5.0	10.0
Chatanooga	17.0	18.0	5.0	13.0
Nashville	16.5	17.5	5.0	12.5
Bristol	18.0	19.0	5.0	14.0
Lt. Rock, Ark.	16.0	17.0	6.0	11.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

Two-cent discount off gasoline tank wagon price to dealer and commercial accounts.

PENNSYLVANIA-DELAWARE AND PART OF NEW ENGLAND

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	*12.0	*14.0	...	12.0
Philadelphia	*12.0	*14.0	...	12.0
Scranton	*12.0	*14.0	...	12.0
Allentown	*12.0	*14.0	...	12.0
Altoona	*12.0	*14.0	...	12.0
Erie	*12.0	*14.0	...	12.0
Dover, Del.	15.0	17.0	3.0	12.0
Wilmington	15.0	17.0	3.0	12.0
Springf'd, Mass.	15.5	17.5	3.0	11.0
Fall River	15.0	17.0	3.0	11.0
Worcester	15.3	17.3	3.0	11 0
Boston	14.5	16.5	3.0	11.0
Providence, R.I.	13.7	15.7	2.0	10.0
Hartford, Conn.	14.5	16.5	3.0	10.0
New Haven	14.6	16.6	3.0	10.0

*Does not include tax of 3 cents in Pennsylvania. Pennsylvania tax is collected by the dealer and paid by him direct to the State. Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purpose of resale. Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points*	16.0	17.0	4.0	†13.0

*Corrected price since March 5, 1931. Dealers and commercial accounts 2 cents under tank wagon.

†Service station price 14 cents.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	16.6	17.6	2.0	15.6
New York*	15.3	15.3	3.0	14.3
Buffalo	15.8	15.8	2.0	14.8
Rochester	16.0	16.0	2.0	14.0
Syracuse	16.8	16.8	2.0	14.8
Boston, Mass.	16.5	16.5	3.0	13.5
Augusta, Me.	18.8	18.8	4.0	14.8
Manch'tr, N. H.	18.4	18.4	4.0	14.0
Burlington, Vt.	19.3	19.3	4.0	15.3

*Prices in steel barrels.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atl'tic City, N.J.	13.7	15.7	3.0	11.5
Newark	12.7	14.7	3.0	10.5
Annapolis, Md.	15.2	16.2	4.0	11.0
Baltimore	14.4	15.4	4.0	8.5
Cumberland	16.2	17.2	4.0	12.0
Wash'gton, D.C.	12.9	13.9	3.0	10.0
Danville, Va.	17.0	18.0	5.0	11.8
Norfolk	15.5	16.5	5.0	10.0
Petersburg	16.5	17.5	5.0	11.3
Richmond	15.9	16.9	5.0	10.7
Roanoke	17.2	18.2	5.0	12.0
Charles'n, W.Va.	15.7	16.7	4.0	11.5
Keyser	16.3	17.3	4.0	12.1
Parkersburg	14.4	15.4	4.0	10.2
Wheeling	15.6	16.6	4.0	11.4
Charlotte, N. C.	18.5	19.5	6.0	11.0
Hickory	18.8	19.8	6.0	12.6
Mt. Airy	18.7	19.7	6.0	12.5
Raleigh	18.4	19.4	6.0	12.2
Salisbury	18.7	19.7	6.0	12.5
Charleston, S.C.	16.5	17.5	6.0	10.3
Columbia	18.4	19.4	6.0	12.2

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers, except in Washington, D. C., and in Maryland where discount is 3 cents.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	14.0	17.0	4.0	12.5
Pueblo	14.0	17.0	4.0	12.0
Grand Junction	16.0	19.0	4.0	14.5
Casper, Wyo.	15.0	18.0	4.0	10.0
Cheyenne	16.0	19.0	4.0	11.5
Butte, Mont.	17.0	20.0	5.0	16.0
Billings	20.0	23.0	5.0	14.5
Great Falls	20.0	23.0	5.0	16.0
Helena	20.0	23.0	5.0	16.0
Salt Lake, Utah	15.5	18.5	4.0	16.0
Albu'que, N. M.	16.0	20.0	5.0	14.0
Boise, Idaho	18.0	21.0	5.0	18.0
Twin Falls	17.0	....	5.0	18.0

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	12.0	8.0
V.M.&P. naphtha	14.0	9.5
Cleaners' naphtha	16.2	11.0
Stanisol	16.2	11.0

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

All dumps of 50 gallons or more.....$0.07

Note—Outside Chicago furnace oils discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

TANK WAGON CHANGES

Magnolia Petroleum Co. reduced the gasoline tank wagon and station prices in Houston 2 cents to 12 cents and 16 cents June 4. In El Paso the station price was reduced to 17 cents the same date. On June 6 the tank wagon price was reduced to 12 cents in Muskogee. On May 20 the station price was reduced to 15 cents in Fort Smith, Ark.

Standard Oil Co. of California advanced the gasoline retail price to 16 cents in Phoenix, Ariz.

Standard Oil Co. of Kentucky reduced the gasoline tank wagon and station prices 1 cent in Birmingham, Ala., to 16 and 18 cents. On June 11 the tank wagon was reduced to 16 cents and the station price to 18 cents.

The Atlantic Refining Co. advanced gasoline tank wagon and station prices 1 cent at all points throughout Massachusetts May 1 when the state tax was advanced from 2 to 3 cents.

NEW CALIFORNIA LINES

LOS ANGELES, Calif., June 13.—Two pipe line jobs have been started in Kern County, to facilitate the handling of oil from Belridge and Round Mountain Fields. The General Petroleum Corp. is building a line from Lost Hills into the Belridge light oil fields. This line, consisting of 8-inch seamless casing, is to be 20 miles in length and it will handle oil from Belridge via the Lost Hills pump station.

The Petroleum Supply Co. of Taft has completed arrangements for the installation of a 6⅝-inch welded pipe line for the Golden Bear Oil Co. from the Round Mountain lease on Section 6-28-29, to the loading terminal, a distance of 10½ miles. Included in the contract will be the installation of 11,000 bbls. of storage, shipping pumps and boilers. A 5-car loading rack will be installed at the shipping terminal.

RED RIVER GAS BRIDGE

The last natural gas pipe line crossing the Red River between Oklahoma and Texas has been removed from the bed of the river with completion of a large pipe line bridge, 16 miles north of Gainesville. The bridge was constructed for the Lone Star Gas Co. The Red River has been hazardous to pipe lines and all the Lone Star systems main lines crossing rivers are now carried on bridges.

Two main towers of structural steel, 840 feet apart, support the structure, which is 1,748 feet long from anchor to anchor. The main tower tops 130 feet above mean low water. Steel caissons, 7 feet in diameter, were sunk, two to each main pier as foundations.

STOP EAST TEXAS BUYING

DALLAS, Tex., June 16.—The Sinclair Oil & Gas Co. and the Gulf Production Co. will not buy any crude oil outside their own leases in East Texas at this time. The Humble Oil & Refining Co. will wait 30 days before paying for oil now being run and will then pay the average field price for that which it previously purchased. Many companies are now offering to sell East Texas crude oil at 10 and 15 cents per barrel.

CRUDE OIL PRICES

(Continued from Page 109)

by Imperial Refining Co. Ohio Oil Co. ceased posting Artesia on March 5, 1931. Lea County posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by the Continental Oil Co. Osage posted by Arro Oil & Refining Co.

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective June 3, 1931)

Lima	$ .70
Wooster	.72
Illinois	.55
Indiana	.35
Princeton	.55
Plymouth	shut in
Western Kentucky	.50
Midland, Mich.* (June 1, 1931)	.52
Dundee, Mich†	
Same as Stanolind Crude Oil Purchasing Co.'s Mid-Continent gravity scale	
Upper and Lower Traverse Sands, Mich.†	
Same as Mid-Continent gravity scale	
Somerset, Ky. (June 5, 1931)	.55
Oil City, Ky. (June 6, 1931)	.50
Petrolia (Canada) (June 4, 1931)¶	1.50
Oil Springs (Canada) (June 4, 1931)¶	1.62
Alberta (Canada)‖:	
50° and above (Mar. 1, 1931)	2.36
45 to 45.9° (Mar. 1, 1931)	1.87

*Posted by Pure Oil Co. †Posted by Standard of Indiana for boat shipment. ‡Posted by Stoll Refining Co. ¶Posted by Imperial Oil, Ltd. ‖Posted by Imperial Oil, Ltd. and Regal Oil & Refining Co. of Calgary. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through Cumberland Pipe Line.

Tide Water Pipe Co.

Bradford district (June 3, 1931)	$1.75
Allegany district (June 3, 1931)	1.75

Pure Oil Co.

Cabin Creek, W. Va. (June 3, 1931)	$1.25
Kelly Creek, W. Va. (June 3, 1931)	1.25
Bradford Hollow, W. Va. (June 3, 1931)	1.25

MEXICAN CRUDE

Panuco*	$ .44

*F.o.b. ship, based on May transactions and exclusive of taxes and bar dues.

Of Interest to Sales Departments

Uses for Synthetic Lubricants Made by Standard of Indiana

A variety of uses has been found for the new synthetic lubricants manufactured by the Standard Oil Co. (Indiana) the process by which these are made having been outlined in the June 4 issue of The Oil and Gas Journal, page 26.

Probably the most important characteristic of the synthetic oils is an extremely low rate of viscosity change with temperature, which is important in the many cases where mechanisms are operated under widely varying temperature conditions. In most cases these oils are at least equal to the best of the natural oils in this respect, and at the same time they avoid the characteristically high cold tests of these natural oils having good temperature-viscosity coefficients.

One of the interesting uses to which these new oils have been put is the lubrication of transmission mechanisms. Research in the laboratories of the Standard Oil Co. (Indiana) has proved that the force necessary for gear shifting is dependent on the viscosity of the lubricating oil, regardless of the presence of soap or other compounding agents. For this reason, it is desirable that a transmission lubricant be suitable for shifting at low temperatures and at the same time give adequate lubrication at the higher operating temperatures. The Engine Laboratory of the Standard Oil Co. (Indiana) has tested various grades of synthetic oil with two other good types of transmission lubricants in transmission mechanisms of each of the three common types and the temperature at which shifting could be conveniently accomplished was determined in each case. It was found that the synthetic oils permitted shifting at temperatures having corresponding viscosities at the higher operating temperatures.

The problem of steering gear lubrication is somewhat analogous to that of transmission lubrication. Synthetic oils have been compared with corresponding steering gear lubricants of other good types and it was found that satisfactory steering could be accomplished with the synthetic oils at from 19 to 50° F. lower temperatures than when using the other lubricants.

One of the first uses to which these new oils were put was as shock absorber fluids. A shock absorber fluid should have a high viscosity at operating temperatures, particularly for those types of shock absorbers which depend primarily upon viscous flow, and at the same time it is necessary that the oil used should be sufficiently fluid at low temperatures to avoid excessive stiffness. It has been found that when synthetic oil is compared with other available products of the maximum permissible viscosity at —10° F. the synthetic oil has much higher viscosities at normal operating temperatures and therefore gives much more satisfactory operation. The use of synthetic oils as shock absorber fluids permits the use of less rigorous dimension and clearance specifications in shock absorber manufacture. This is an example of the general rule that the use of superior lubricants, such as these, has as one of its outstanding advantages the permission of greater latitude in mechanical design.

The low temperature-viscosity characteristic and high resistance to sludge formation of the synthetic oils should make them particularly applicable to airplane engine lubrication. An extensive test of this use is now being conducted in the company's larger airplane, the Stanolind III.

Preliminary test results on an air-cooled passenger car engine showed markedly less thickening, acidity formation, carbon deposition, and sludging than when using either of two natural lubricants. Oil consumption was much less for the synthetic product.

Although the manufacturing costs of the new oils are necessarily so high that they cannot directly compete with natural oils for ordinary lubrication purposes, and although they have been given exhaustive field tests in connection with only a few of their possible applications, they have prospects of increasing use in those fields for which their peculiar properties particularly suit them.

INCLUDE COMPLETE OIL SERVICE AT CHAIN OF ROADSIDE TAVERNS

CHICAGO, June 12.—One thousand wayside inns to be known as Autohavens, an evolution of the ancient roadside tavern of our fathers, are to be built gridding the main motor highways of the nation by the National Autohaven Co., of Chicago, according to A. J. Williams, general manager. The cost of each will be approximately $85,000 which means that the entire project will represent an investment of about $85,000,000.

Each Autohaven will have 21 rooms, a restaurant and complete motor service and repair department. Heating, it is announced, will be with fuel oil. The type of burner used has not been determined on as yet. As the company is standardizing throughout it is probable that one company will get a blanket order for all stations.

Marshall Field & Co. recently received a contract to furnish and equip the first 100 units the job calling for about $1,500,000 worth of furniture and other furnishings and equipment. Standard Oil Co., of Indiana, will supply gasolines and oils for these units. All stations are to be built of red face brick to the top of the first floor, then stucco and a composition slate roof. Normandy style of architecture has been fixed upon and every Autohaven will be identical with all others.

Sites are being acquired on main motor highways, usually just outside of some city or village, and always on the right hand side of the road as it leads into the town. Arrangements have been made with a large transcontinental bus line to use the Autohavens as bus stops and stopover privileges will be permitted so that weary bus riders can lay over at a station at night resuming his trip on another bus next day if he desires.

In some instances Autohavens will be built adjoining local golf courses, if they lack clubhouse facilities, and close to airplane fields. However, the motorist trade will always be first consideration.

Local residents will be made managers of departments, after a course of training, wherever this is possible. Local contractors, it is announced, will be favored in building operations. According to the management sufficient financing has been arranged and no stock in the project is for sale to the public.

The first 100 units, to be built within 150 miles of Chicago, are scheduled for completion before January 1 next.

Rail Tariffs May Be Lowered to Meet All New Competition

WASHINGTON, D. C., June 16.—Greater leniency in the fixing of freight rates on oil was the result of a decision of the Interstate Commerce Commission here yesterday. In their efforts to hold the oil traffic to the rails, the railroads had been handicapped by not being able to meet local conditions since the commission had attempted to force the application of general rates to apply in all instances.

The new arrangement will permit the railroads to publish tariffs as much as 25 per cent below the normal tariff between points where competition by pipe lines or trucks exists.

With respect to this, Commissioner Lewis, who wrote the report, said:

Scale Not Low Enough

"The carriers state that their proposed scale, will, in many instances, not be low enough to meet existing competition of motor trucks and gasoline pipe lines, and that in such cases they desire to be free to establish such lower rates as may appear necessary. They stress the necessity of having a free hand in meeting these situations. Because of the rapidity with which these matters develop and the need for immediate action they urge that any limitation upon their freedom in this respect would seriously hamper them in meeting this competition."

To this request the commissioner replied. "The record in this proceeding shows numerous instances of undue prejudices and undue preference. The existence of intense carrier and refinery competition might readily cause such instances in the future as well as in the past, if the railroads were to be given an absolutely free hand."

Exceptions Are Outlined

"Except for the maximum rates to destinations intermediate to the gateways and rates made in just relationship thereto, we believe that exceptions to the basic scale should be made only in clear instances of competition by other transportation agencies, such as motor trucks and pipe lines, and not by reason of rail or refinery competition. On the other hand we believe that the railroads should be permitted to meet such competition of other transportation agencies, provided that the rate is compensatory."

While some have interpreted the trend toward liberalizing the rules governing the fixing of rail rates as a step directed against gasoline lines, in practice it may prove to be a means of making the operations of the railroads and the gasolines a more workable unit to exclude truck competition. The Great Lakes Pipe Line Co., the first to lay a line from the Mid-Continent to the north central states, extending to Chicago had plans for the trucking of gasoline from depots established at intermediate points, if the railroads did not revise their rates to compete with such a trucking system. With the new provision allowing the roads to establish such competitive rates, the pipe line will be relieved of the additional investment and a closer working exchange of business and improved relations may result.

MIX OILS AND COAL IN NEW COKE OVEN PROCESS

Several coal operators in the Pittsburgh district are reported to be experimenting with a coal and oil mixture for the purpose of eliminating ash and sulphur in obtaining a fuel for metallurgical and other purposes.

In one method now being used the coal is first powdered and mixed with water. This is then mixed with either crude oil or fuel oil in an agitator. The process is based on the affinity of oil for coal, the oil enveloping each particle of carbon with no affinity for the ash. After leaving the agitator, the particles of coal and oil settle to the bottom and the water carrying the ash rises to the top. The size of the beads range up to 2 inches in diameter and are controlled by the amount of oil used. Usually the latter amounts to about 15 per cent of the total.

The process in coke oven operation is said to increase the yield of by-products including benzine and gas. The sulphur and ash content is reduced.

CHICAGO POST OFFICE CONTRACT

CHICAGO, June 16.—The Deep Rock Oil Corp. has been awarded the contract for supplying the Chicago post office with gasoline for the third quarter, starting July 1. The contract, which calls for the maximum delivery of 300,000 gallons, gives the seller a maximum price of 3¼ cents and a minimum based on the average price on the days on which orders are placed. The post office allows the Deep Rock corporation one-half cent a gallon for handling charges and pays freight from the refineries.

TAP GASOLINE LINE TO SECURE BOOTLEG SUPPLY

OKLAHOMA CITY, Okla., June 12.—A source of bootleg gasoline is believed to have been uncovered this week when a concealed gasoline pipe line tap was discovered. The line is used for the-transportation of natural gasoline from a plant in the Oklahoma City Field to a loading rack.

Officials of the company had workmen at work to determine the source of losses in pipe line transportation when the three-fourth inch tap to the main line was discovered. The tap led to a nearby garage and it is believed that the gasoline was loaded in trucks at that point and sold in the Oklahoma City territory without the payment of the state 5-cent tax. The Coline company estimates that the company lost 30,000 gallons of gasoline over a period of six months.

CONSIDER TRADE PRACTICES

NEW YORK, June 12.—The executive committee of the American Oil Burner Association, at a special meeting here this week, voted to call a general conference of oil burner manufacturers for the Royal York Hotel, Toronto, on July 13, to take up the matter of unethical trade practices which have crept into the industry.

Vicious and unethical practices which have become apparent in recent months will come in for a thorough discussion, said Walter F. Tant, president of the association, while the question of unfair advertising will also come in for consideration. Merchandising problems of the dealer will also be taken up at the Toronto conference, Mr. Tant said.

ORGANIZE DIVISION OFFICE

J. E. Lambert has been placed in charge of the Southwestern division office of the Indian Refining Co. with headquarters in Fort Worth, Tex. Mr. Lambert, formerly was in charge of the New Orleans office. The territory covered by the Fort Worth office includes Louisiana, Arkansas, Missouri, Kansas, Oklahoma, New Mexico, Colorado and Texas. The marketing territories of the Indian company which has its headquarters at Lawrenceville, Ill., recently were reorganized.

HUMBLE MAY BUILD PLANT

The Humble Oil & Refining Co. is negotiating for two sites near Gladewater assumed to be for a skimming plant which will probably be erected as soon as one of the two sites can be obtained. If the company builds such a plant, it will be the first of its kind constructed by a major company in the area, there now being six others in the district owned and operated by smaller companies.

Pan American Sells Share in Iraq

Interest in Near East Development Co. Disposed of to New Jersey Company. President Stewart's Statement

NEW YORK, June 15.—The interest which Pan American Petroleum & Transport Co., controlled by Standard Oil Co. (Indiana), held in the Iraq Petroleum Co., Ltd., which has a concession for 75 years in the Iraq oil field, has been sold. It is understood the sale was made to the Standard Oil Co. (New Jersey) interests.

The Jersey company already has participation in the Near East Development Corp., which was formed in February, 1928, in Delaware as a holding company to acquire the 23¾ per cent interest in Iraq Petroleum Co. held by the Jersey company, Standard Oil Co. of New York, Gulf Oil Corp., Atlantic Refining Co. and Pan American. The Pan American's 16⅔ per cent interest was disposed of because of the fact that the company had practically no voice in the management of the Iraq Petroleum Co. and its interest in the latter's production amounted to only 2,900 bbls. daily, which, to be handled at a profit, would have involved an investment of around $5,000,000 by Pan American.

It is reported that the Atlantic Refining Co. may also sell its 16⅔ per cent interest to Standard of New Jersey or Standard of New York.

As the American participation now stands, Standard of New Jersey holds a 41⅔ per cent interest in Near East Development, Standard of New York 25 per cent and Gulf Oil and Atlantic Refining each 16⅔ per cent. Near East Development's 23¾ per cent interest makes it virtually a one-fourth partner in the Iraq enterprise.

In addition to the American interest in Iraq Petroleum Co., the Anglo-Persian Oil Co., the Royal Dutch-Shell group and a French group each hold 23¾ per cent participation in the company, the remaining 5 per cent being held by C. S. Gulbenkian. Drilling operations have been progressing on the concession, oil having been struck in October, 1927, near Kirkuk, the well subsequently having been capped awaiting transportation facilities. A pipe line from the field will be laid, branching off to the two Mediterranean ports of Tripoli and Haifa.

Disclosure of the sale of Pan American's Iraq interest was made by R. G. Stewart, president, at the company's annual meeting in reply to a question of a stockholder regarding foreign activities.

Respecting dividends, Mr. Stewart said: "I hesitate to talk about continuation of dividends at the present time, but if the company's earnings warrant, we will continue to pay dividends."

He also said that as far as he could ascertain the Russians were not marketing gasoline in Mexico, but that he had heard of some contracts being made for Russian oil in Uruguay.

"If we are allowed to continue imports of oil from South America and Venezuela the end of the company's development program as far as refineries are concerned is now near," he said. "There are, however, many uncertain conditions with which the company has to contend, such as a tariff or embargo on imports of oil, which may force it to continue this program.

"That is, it might, in the event of an embargo or tariff on oil have to build pipe line facilities in Texas and a refinery on the Gulf Coast. With this in mind I might say that we have already purchased land in Texas on which we can build a refinery if forced to do so."

Discussing the company's expansion during the past few years, Mr. Stewart said: "In 1927 we were faced with the need for a refinery to handle our Venezuelan crude oil, as at that time our Venezuelan oil was being topped in the refineries of other companies, for which we were paying a high price per barrel.

"The refinery at Aruba, Dutch West Indies, was placed in partial operation in September, 1929. While the refinery, which cost $23,000,000, was being built we developed the Pan American marketing company, which operates principally along the southern Atlantic seaboard of the United States.

"In 1927 we produced less than 4,400,000 bbls. of gasoline, while in 1930 our production totaled in the neighborhood of 11,000,000 bbls., which was not sufficient to meet our marketing requirements. While I am not anxious to expand our marketing facilities at present we realize that the company must have a nucleus around which to expand its marketing facilities when conditions in the industry improve. Hence, where the company's gallonage is sufficient to permit expansion on a profitable basis, expansion is being carried on."

Asked about the immediate retirement of the company's 6 per cent convertible bonds, of which $5,210,000 were outstanding at the close of 1930, Mr. Stewart said this had received serious consideration. "If oil conditions were normal at the present time we certainly would do this immediately."

All retiring directors were re-elected.

At a subsequent meeting of directors the retiring officers were also re-elected. Approximately 95 per cent of both classes of common stock is owned by the Standard Oil Co. of Indiana.

Sinclair Consolidated

The Sinclair Consolidated Oil Corp. has omitted the regular quarterly dividend of 25 cents a share on the common stock due at this time. No meeting of directors was held, the company announced, but "a canvass of the board, however, has shown that it was the opinion of its members that a common dividend should not be declared at this time owing to prevailing conditions in the oil industry."

"Notwithstanding the increase in the volume of the company's business," the announcement said, "prices remain at such low levels that it is impossible to realize earnings that justify the payment of a common dividend. Under these circumstances the management believes that the best interest of the stockholders and the corporation will be served by maintaining its present strong position while awaiting the results of a turn for the better in general conditions, and particularly in the oil business."

On January 15 last the regular quarterly dividend on the common stock was cut into halves by the payment of a dividend of 25 cents a share. Dividends on the common stock were resumed in April, 1929, at the rate of 50 cents regular and 25 cents a share extra. At the beginning of 1930 the extra dividend was omitted, but the regular quarterly dividend of 50 cents a share was paid throughout that year.

Louisiana Oil

Report of Louisiana Oil Refining Corp. and subsidiaries for year ended December 31, 1930, shows net loss of $1,329,923 after interest, depreciation, depletion, drilling labor and expenses, federal taxes, etc. This compares with net profit of $1,508,171 equal after 6½ per cent preferred dividends to $1.05 a share on 1,190,063 no-par shares of common stock in 1929.

Lone Star Gas

May surplus of Lone Star Gas Corp. is estimated at $154,800 after depreciation, taxes and preferred dividends, comparing with $100,635 in May, 1930, and for five months ended May 31, 1931, at $3,566,300 against $3,472,111.

Shell Transport

Pamphlet report of Shell Transport & Trading Co., Ltd., for year ended December 31, 1930, shows net profit of £4,898,752 after expenses and other charges, equivalent after 5 per cent first preferred and 7 per cent second preferred dividend requirements, to 17.54 per cent on £24,121,361 ordinary stock. This compares with £6,483,386 or 25.01 per cent on ordinary stock in 1929.

Canadian Eagle

Trading profit of Canadian Eagle Oil Co., Ltd., for year ended December 31, 1930, was $6,929,905 (Canadian dollars). After deduction of $1,946,640 premiums written off purchase of Eagle Oil Transport preference shares and $1,000,000 reserve against investment in and loan to Arend Petroleum Co., net profit was $3,983,265, comparing with $4,436,415 in preceding year.

Oil purchases by the company last year amounted to 8,002,758 bbls., against 7,583,200 in 1929, while shipments totaled 8,130,074 bbls., against 7,194,720.

Mexican Eagle Oil Co., Ltd., reports for years ended December 31, 1930, trading profit, after depreciation, of $5,175,356 (Mexican dollars). Other income was $642,757, making total income of $5,818,113, from which $290,905 was appropriated for legal reserve, making net profit of $5,527,208, against $6,738,654 in preceding year.

Production of crude oil by Mexican Eagle last year amounted to 12,820,198 bbls., compared with 11,954,048 bbls. in 1929; purchases, 5,554,263 bbls., against 6,756,805, and sales of oil 18,883,361 bbls., against 14,854,739.

Both companies are controlled by Royal Dutch-Shell. Canadian Eagle was formed February, 1928, in Toronto, Canada, to acquire certain assets outside Mexico of the Mexican Eagle Oil Co.

Richfield Oil

William C. McDuffie, receiver for the Richfield Oil Co. of California, who has been in New York for several days, said yesterday that he was not here to attempt a reorganization of the Richfield company. He said he was here on other

(Continued on Page 119)

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending June 6)

1931 High	1931 Low	Week ended June 6 Sales	Week ended June 6 High	Week ended June 6 Low	Close June 10	Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1	⅛	500	¼	¼	..	Atlantic Lobos	499,448	N.P.	....	5-28-30	..	..	..	..	1	⅛
12⅞	6¼	100	7	7	..	Borne Scrymser	$1,000,000	$25	....	10-15-30	56½	44½	46½	25	25	11¼
51	40	300	43¼	42⅞	..	Buckeye Pipe Line	$10,000,000	$50	$1Q	3-14-31	76	53	74½	55	69	39⅞
129½	101	200	105	101	..	Chesebrough Mfg.	$3,000,000	$25	$1Q†	3-31-31	161	117	210	130	184⅞	104¼
3½	2	6,400	2¼	2	..	Creole Petroleum	5,977,873	N.P.	....	.....	17½	9½	11¾	5⅝	7⅝	3
30	20⅝	100	21¾	21¾	..	Cumberland Pipe Line	$1,500,000	$50	50cQ	3-16-31	114	67	75¾	40	65¾	20¼
31	24	50	24	24	..	Eureka Pipe Line	$5,000,000	$100	$1Q	5- 1-31	88	64½	70½	42	54¾	26
2⅞	1	200	1	1	..	Galena Signal Oil	$16,000,000	$100	....	.....	13	4¼	6½	3	7	2½
72	49⅞	12,200	54	49⅞	56	Humble Oil & Refining	$74,103,300	$25	50cQ	4- 1-31	114¾	59½	128	74½	119	57¼
18¼	9⅞	5,300	11⅝	9⅞	11¾	Imperial Oil of Canada	25,421,768	N.P	12½cQ	6- 1-31	104	56¾	41	22	30	15
21¼	9⅛	400	10	9⅛	..	Indiana Pipe Line	$3,000,000	$10	25cQ	5-16-31	91⅞	74⅜	41⅞	26	41	14½
15½	8¾	58,500	9¾	8¾	10¼	International Petroleum	14,247,088	N.P.	25cQ	3-16-31	55	35	30⅜	15	24	11⅝
17½	11¼	1,100	13⅞	11¼	..	National Transit	$6,362,500	$12.50	25cQ§	4-16-31	32⅜	19⅜	25⅛	10⅛	22⅜	11½
14½	7⅞	300	8	7⅞	..	New York Transit	$1,000,000	$10	25cQ	4-15-31	75	38½	17½	10	21⅜	10⅛
30	28	100	29	29	..	Northern Pipe Line	$2,000,000	$50	$28A	1- 2-31	69	56½	63	41	54	26¼
15½	8	300	8¾	8	..	Penn Mex Fuel	$10,000,000	$25	....	12-15-30	84	28	44½	20	32	12
8	3¼	400	4⅛	3¼	..	Solar Refining	$4,000,000	$25	....	12-20-29	..	..	50	29	33	4⅞
17	10	300	11⅜	11⅛	..	Southern Pipe Line	$1,000,000	$10	50c	6- 1-31	19	15	22½	13	20⅞	8⅜
23⅞	12⅜	2,500	13	12	..	South Penn Oil	$30,000,000	$25	25cQ	3-31-31	71⅞	36¾	60¼	35⅛	45⅞	16⅛
36	33	No sales.	..	..	..	Southwest Pennsylvania Pipe Line	$1,750,000	$50	$1Q	3-16-31	102	70	70	60	64	32
38½	19⅛	78,800	23¾	19⅛	24	Standard Oil of Indiana	$348,175,069	$25	50cQ	3-16-31	95⅞	70⅞	63	45	59⅞	30
23⅝	15⅝	11,750	17⅞	15⅞	18	Standard Oil of Kentucky	$25,654,516	$10	40cQ	3-31-31	179¾	122¼	46⅞	29	40½	18⅝
36½	19¼	200	20	19¼	22¼	Standard Oil of Nebraska	$4,649,225	$25	50cQ	3-20-31	54⅞	39⅞	50¼	40	48⅞	34⅝
62½	35	1,150	40⅛	35	40	Standard Oil of Ohio	$14,000,000	$25	62½cQ	4- 1-31	134	71	129	60	108½	43¼
3½	2¾	No sales.	..	..	..	Swan-Finch Co.	$861,466	$25	....	1-15-29	23¼	16	18	10	10	4
69¾	22⅛	112,800	35¼	22⅛	38⅛	Vacuum Oil Co.	$126,180,350	$25	50cQ	3-20-31	111	72	133¾	75	97⅞	45⅝

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus 50 cents extra. §Plus 10 cents extra.

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending June 6)

1931 High	1931 Low	Week ended June 6 Sales	Week ended June 6 High	Week ended June 6 Low	Close June 10	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1¾	⅝	3,300	¾	⅝	⅝	American Maracaibo	(sh)	700,000	N.P.	....	.....	9½	3⅛	8⅝	1⅛	4½	½
16⅞	8½	No sales.	..	..	..	British American Oil Corp. (new) coup.		1,311,321	N.P.	20cQ	4- 1-31	55	32¾	62	7⅞	23	13⅜
2⅜	½	3,600	⅞	¾	..	Carib Syndicate		$131,250	25c	....	.....	4½	3⅞	4⅞	1	2¾	⅝
20¾	9¾	223,000	11¾	9¾	11½	Cities Service	(sh)	24,290,359	N.P.	30cA‡	6- 1-31	90⅞	54	68⅛	20	44¼	13
84¾	61¼	2,300	63¾	61¼	..	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	6- 1-31	103¼	94½	98¾	84	93⅞	78¼
½	⅛	800	⅛	⅛	..	Colombia Syndicate		$2,000.000	$1	....	.....	3¼	.76	2	½	¾	⅛
2¾	1½	No sales.	..	..	..	Consolidated Royal		$5,527,875	$10	7½cQ	4-25-31	8⅞	6¼	11⅛	2½	5⅞	2
⅝	¼	300	⅜	¼	..	Crown Central		.....	....	....	.....	..	..	..	..	..	..
5	2	100	2¼	2¼	..	Darby Petrqleum		1,019,392	N.P.	....	10-15-30	33½	3¼	26	6½	21¾	4¼
6	2½	600	12½	12¼	..	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	2¼	1	11	2	11	2
40⅛	26	No sales.	..	..	..	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	21⅛	7½	44	20¾	60	30
75½	38	9,500	45	38	48½	Gulf Oil Corp.	(sh)	4,504,921	$25	37½cQ	4- 1-31	165	101⅛	209	115	166⅞	58½
⅝	¼	2,300	⅜	¼	⅜	Intercontinental Petroleum		$5,682,000	$5	....	.....	3⅜	1	2⅞	⅜	1¾	⅜
1⅞	½	200	⅝	⅝	..	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	3	1¼	3⅝	1¼	3	⅞
1½	½	1,400	⅝	½	..	Leonard Oil & Development		$50,000,000	$25	....	.....	9⅜	5⅛	6⅛	1	4¾	½
6¾	3½	No sales.	..	..	..	Lion Oil & Refining	(sh)	250,000	N.P.	....	10-27-30	43⅞	20	38⅞	18	29	4⅞
25	14⅛	7,500	16¼	14¾	16	Lone Star Gas	(sh)	5,000,000	N.P.	22cQ	3-31-31	69⅛	48½	67⅞	28	55⅞	19⅝
½	⅛	4,600	⅛	¼	⅛	Magdalena Syndicate	(sh)	850,000	$1	....	.....	1⅞	½	1¼	½	½	⅛
5	3	500	4½	4	..	Margay Oil Corp.		160,000	N.P.	....	7-10-30	48½	32	38½	14	16	3
4⅞	1½	No sales.	..	..	..	Mexico-Ohio Oil Co.		500,000	N.P.	....	.....	8	2¾	6⅜	2¼	7½	1¾
½	¼	No sales.	..	..	..	Mountain & Gulf		$4,000,000	$1	1cQ	4-15-31	1¾	.76	1½	¼	¾	⅜
5⅞	3¼	2,200	3¾	3¼	3⅝	Mountain Producers		$1,682,182	$10	25cQ	4- 1-31	28⅞	19½	22⅞	7	12⅛	3¾
1½	⅞	2,600	1	⅞	..	New Bradford Oil		$1,095,291	$5	7cQ	4-15-31	5⅝	4¼	5	2½	3½	1⅜
3	1⅜	1,200	1⅜	1⅜	1⅜	New Mexico and Arizona		$1,000,000	$1	....	.....	11⅞	7⅛	9⅜	2¼	7¼	1½
3¼	1⅛	No sales.	..	..	..	North Central Texas	(sh)	400,000	N.P.	....	9- 2-30	14¼	8½	18½	6⅛	11¼	2⅛
½	¼	2,300	⅜	¼	¼	Pandem	(sh)	489,875	N.P.	....	.....	6	2⅛	3½	½	2½	¼
2	⅝	1,800	¾	⅝	..	Pantapec Oil	(sh)	1.506,000	N.P.	....	.....	15⅝	8½	10½	1⅞	4⅜	⅞
1½	½	1,800	1	½	¾	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	12⅞	4⅛	8½	1⅛	5⅜	1
3	1½	200	1½	1½	..	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	12	4½	11	3	8⅝	2
1⅜	⅞	No sales.	..	..	..	Salt Creek Consolidated	(sh)	1,286,300	$10	7cQ	4- 1-31	7¼	5½	5⅞	1⅞	2½	½
7¾	4	7,000	4⅞	4	4⅝	Salt Creek Producers	(sh)	1,496,859	$10	35cQ	5- 1-31	35	23⅛	25⅞	9	15¼	5¼
5¼	1½	6,000	1¾	1½	1½	Sunray Oil Corp.	(sh)	1,163,185	$5	5%Q§	4-15-31	..	..	12	5⅝	10	2
1⅞	⅝	500	⅞	¾	⅞	Venezuelan Petroleum	(sh)	755,090	$5	....	2-15-30	9⅛	4¾	6½	1¾	4½	⅜
3½	1½	200	2⅝	2⅜	..	Woodley Petroleum		$500.000	$1	....	3-31-29	8¼	4⅞	9½	2	5	½
1¼	¼	500	1	¾	..	Y Oil & Gas		100.000	N.P.	....	.....	8⅜	2⅛	2⅞	½	2½	⅜

*Ex-dividend. †Unit of trading less than 100 shares. ‡Payable monthly and monthly stock dividend of one-half per cent. §Paid in lieu of regular cash dividend of 2 per cent.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending June 6)

1931 High	1931 Low	Week ended June 6 Sales	Week ended June 6 High	Week ended June 6 Low	Close June 10	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
23	15½	6,800	16½	15½	16½	Amerada Corp.	(sh)	922,075	N.P.	50cQ	4-30-31	43⅞	27⅛	42⅝	17½	31½	16½
12⅜	5	1,100	6	5	7	American Republics Corp.	(sh)	209,180	N.P.	$3.50SA	12-10-30	85	51⅜	64¾	12½	37	5⅛
31	20	40	20½	20½	..	Associated Oil		$57,260,300	$25	50cQ	3-31-31	53⅜	37½	47¼	34½	51	30
23⅝	11⅛	26,100	14¼	11⅛	15	Atlantic Refining		$66,763,775	$25	25cQ	3-16-31	66⅝	50	77⅞	30	51⅜	16⅝
14½	5¾	25,100	6¾	5¾	7¼	Barnsdall Corp. A		$56,546,600	$25	25cQ	5-11-31	54	20	49⅛	20	34	8⅝
12	5	38,500	6	5	7⅜	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	.....	..	..	47⅞	18	30½	7¾
47	15¼	15,100	19⅞	15¼	21	General Asphalt	(sh)	413,333	N.P.	75cQ	3-16-31	94⅞	68	94¾	42¼	71½	22⅜
68½	27	8,900	35	27	36¼	Houston Oil		$24,968,600	$100	....	.....	167	79	109	26	116⅞	29¼
4⅝	2	1,700	2⅛	2⅛	..	Indian Refining		$12,564,070	$10	....	.....	39⅝	9	53	13⅛	17	2
4½	2	1,400	2¼	2	2½	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	19¾	9⅜	18	7	12	3½
3¾	1	100	1½	1½	..	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	25½	12½	18½	5⅛	10⅜	1⅜
20¾	10⅝	38,800	14⅜	10⅝	14⅜	Mexican Seaboard	(sh)	1,244,383	N.P.	....	10- 1-24	72	4⅝	59⅝	8¼	37	9¾
16⅜	5¾	16,500	7⅝	5¾	8	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	....	.....	44½	25⅛	39⅞	22⅛	32	11
19½	7	20,300	9	7	8⅞	Ohio Oil	(sh)	6,648,052	N.P.	....	.....	84	58½	79⅞	64¼	32	16
35⅛	25	100	25	25	..	Pan American P. & T.		$50,084,700	$50	....	12-20-27	50⅞	38¼	69	40½	46½	42
36½	24	1,700	25	24	..	Pan American P. & T. "B"		$121,110,650	$50	....	12-20-27	59⅞	37¾	69¼	40½	67¼	30
4¼	1½	100	1⅝	1⅝	..	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	21⅜	11½	15¼	3	12¾	1¾
20	10	No sales.	..	..	..	Panhandle P. & R. pfd.		$2,564,400	$100	....	.....	108	70	76	47½	20	47½
16⅝	4¾	31,800	6⅛	4¾	6⅜	Phillips Petroleum	(sh)	2,593,075	N.P.	....	1- 2-31	53⅞	35¼	47	24¼	44⅜	11½
1½	½	1,600	½	½	..	Pierce Oil Corp.		$29,622,831	$25	....	.....	5¼	½	3⅜	1	2½	½
3⅜	1	14,200	1½	1	1½	Pierce Petroleum	(sh)	2,500,000	N.P.	10c	2-16-31	7	3½	5⅞	½	7⅛	1⅜
20⅜	6½	9,600	8⅞	6½	9¼	Prairie Oil & Gas		$60,848,000	$25	....	.....	68	46	65⅜	40½	54	11¼
26½	14⅝	10,600	18	14⅝	18¾	Prairie Pipe Line		$101,250,000	$25	75cQ	3-31-31	280	172	65	45	60	16⅝
6	1⅞	2,900	2¾	1⅞	..	Producers & Refiners		$37,438,950	$50	....	9-15-23	29⅞	16	25⅞	4	11⅞	1
16	6½	1,100	6⅝	6½	..	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	49⅝	41	46¾	25½	40	11½
11⅞	5½	24,800	6	5½	6⅛	Pure Oil		$75,959,250	$25	....	9- 1-30	31⅝	19	30¾	20	27¼	7⅝
6⅝	1	11,100	1⅜	1	1¼	Richfield Oil (new)		$52,410,875	N.P.	....	.....	56	23	49⅝	20	9¾	4⅛
10¼	3⅛	9,200	4⅛	3⅛	4¼	Rio Grande Oil	(sh)	1,236,270	N.P.	....	7-25-30	37½	32	42½	15	25¾	5
42⅝	24⅞	19,500	27¼	24⅞	26⅞	Royal Dutch, N. Y.	(sh)	611,303	....	$1.3404	1-30-31	64	44⅝	64	43⅛	56½	36⅞
34	19	310	20¼	19	..	Shell Transport & Trading Co.		£23,985,000	£1	$0.966	1-23-31	47⅞	41⅜	51½	40⅝	48⅜	26
10¼	4½	11,100	5	4½	6	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	39¼	23¼	31¾	19	25½	5¼
11	5¼	2,000	5¼	5¼	..	Simms Petroleum		$8,353,620	$10	....	9-15-30	27½	18⅛	40⅛	15	37	5⅝
15⅞	6¼	72,200	8⅝	6¼	8	Sinclair Consolidated	(sh)	5,500,000	N.P.	25cQ	4-15-31	46¾	17⅜	45	21	32	9¾
103	77½	500	81	77½	77½	Sinclair Consolidated pfd		$16,025,250	$100	$2Q	5-16-31	110	102½	111	103	112¼	86
12⅞	3⅛	3,400	4¼	3⅛	..	Skelly Oil		$27,441,250	$25	....	12-15-30	42⅝	25	40½	28	42	10⅛
51¾	31⅛	40,600	35¾	31⅛	35¾	Standard of California	(sh)	12,594,098	N.P.	62½cQ	3-16-31	80	63	81⅞	51½	75	42½
19	8¾	2,600	9¼	8¾	11½	Standard of Kansas		$8,000,000	$25	....	3-16-31	37¾	15	33¾	18	49	14⅜
52½	30⅝	187,000	34⅜	30⅝	35½	Standard Oil of New Jersey		$634,999,200	$25	25cQ‡	3-16-31	59⅜	37⅜	83	49	84⅞	32½
26	13⅞	209,800	15¾	13⅞	16	Standard Oil of New York		$445,223,675	$25	40cQ	3-16-31	33¼	28¾	48⅛	31¾	40⅜	19⅜
45¼	31	1,000	34½	31	33	Sun Oil	(sh)	1,416,869	N.P.	25cQ	3-16-31	77	31½	68¾	55	70	39
1¾	¾	900	⅞	¾	¾	Superior Oil Corp.	(sh)	776,979	N.P.	....	12-20-30	..	..	24	5¼	9⅜	¾
36¼	18	50,100	20½	18	20½	The Texas Corporation		$246,204,900	$25	50cQ	4- 1-31	74¾	50	71⅞	50	60½	28¼
6½	2½	3,900	3½	2½	..	Texas Pacific Coal & Oil Co.		$9,304,890	$10	....	12-31-29	26⅝	12⅛	23⅞	9½	14½	4
9	4¼	No sales.	..	..	..	Tide Water Oil	(sh)	2,191,759	N.P.	20cQ	3-31-31	41½	19⅝	40	14	31	13
83	54	100	54	54	..	Tide Water Oil pfd.	(sh)	19,947,000	N.P.	$1.25Q	5-16-31	100⅛	86	97½	85⅛	94⅞	71
9	4	21,700	4⅞	4	5½	Tide Water Associated	(sh)	5,560,424	N.P.	30cSA	2-16-31	25	14¾	23½	10	17¾	5⅞
68	38	2,100	42	38	48⅛	Tide Water Associated pfd.		$73,284,500	....	$1.50Q	4- 1-31	..	..	90⅞	74⅛	89¾	55
26⅝	14	8,000	17⅝	16	19	Union Oil of California		$104,342,375	$25	50cQ	5- 9-31	58	42¾	57	42⅛	50	10⅛
25⅛	20	1,300	20½	20	..	Union Tank Car	(sh)	1,254,048	$100	40cQ	6- 1-31	128¼	110	163¾	121⅞	38½	23
7¾	1⅝	700	2⅝	1⅝	..	Warner-Quinlan	(sh)	632,948	N.P.	....	7- 1-30	44⅞	26	42⅞	15	27	4¼
9⅜	3½	1,900	5	3½	..	Wilcox Oil & Gas	(sh)	428,907	N.P.	....	5-10-28	..	..	29¾	12⅞	21	6½

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus extra dividend of 25 cents.

In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been stock split-ups.

ROCKY MOUNTAIN AREA

(Continued from Page 95)

It had a show of gas in the Colorado shale at 1,580 feet.

Oil Drillers, Ltd.'s No. 1 Farbo, NE SE SE, Section 3-37-4w, Border Field, which was taken over from the Nellie B. Oil & Gas Co. a few weeks ago, is drilling at 1,550 feet, and the Askalta Oil Co.'s No. 1 Farbo, SE cor. NE, Section 2-37-4w, formerly Mid-Continent Oil & Refining Co.'s No. 3, is spudding at 200 feet.

Rosebud County

Prairie Oil & Gas Co.'s No. 1, Contract 4, SE SW SW, Section 28-11-39, Porcupine Dome, has cleaned to bottom at 1,360 feet and running the 12½-inch, and its No. 1, Contract 3, NE SW NW, Section 26-10-39, broke the stem at the weld while drilling by whipstock at 1,946 feet, and is fishing for tools. Total depth is 2,415 feet.

Runs From the Fields

Average daily pipe line runs in week ending June 13:

WYOMING

Salt Creek	26,020
Big Muddy	1,840
Byron	10
Dallas-Derby	650
Dutton Creek	110
Elk Basin	630
Ferris	30
Frannie	920
Grass Creek	2,160
Hudson	370
LaBarge	1,260
Lance Creek	260
Lost Soldier	3,300
Lovell	....
Oregon Basin	1,440
Osage	1,290
Rock River	1,860
Poison Spider	170
Simpson Ridge	....
South Casper	570
Teapot	20
Warm Springs	....
Total Wyoming	42,910

MONTANA

Buckley-Border	700
Cat Creek	1,010
Dry Creek	470
Kevin-Sunburst	4,420
Lake Basin	50
Pondera	1,400
Total Montana	8,050

COLORADO

Florence	330
Fort Collins	1,010
Iles	1,410
Moffat	950
Orchard	350
Rangely	20
Tow Creek	330
Total Colorado	4,400

NEW MEXICO

Rattlesnake	1,000
Hogback	510
Table Mesa	80
Artesia	1,195
Cap Rock	201
Getty	200
Hobbs	36,750
Jal	1,104
Lea City	2,500
Eunice	453
Texas-Pacific area	....
Total New Mexico	43,993
Total	99,353
Total previous week	97,468
Difference	1,885

EAST CENTRAL TEXAS

(Continued from Page 41)

sand 3,469-79 feet, initial production 206 bbls. through 2½-inch tubing, open, total depth 3,504 feet. Lacy Oil Co. and others' No. 1 T. D. Anderson and others, oil sand 3,631-48 feet, initial production 132 bbls. per hour through eleven-sixteenths-inch choke, total depth 3,648 feet. Simms Oil Co.'s No. 1 Arthur Christian, oil sand 3,516-61 feet, initial production 140 bbls. per hour through three-fourths-inch choke on tubing, total depth 3,561 feet.

Vacuum Oil Co.'s No. 1 G. W. Tate, oil sand 3,452-69 feet, initial production 240 bbls. per hour through 2½-inch tubing open, total depth 3,469 feet. Heyser-Heard's No. 1 L. V. Tuttle, oil sand 3,528-58 feet, initial production 120 bbls. per hour on eleven-sixteenths-inch choke on tubing, total depth 3,558 feet. J. K. Wadley and others' No. 1 J. E. Sheffield, oil sand 3,624-61 feet, initial production 230 bbls. per hour through 2½-inch tubing open, total depth 3,670 feet. Woodley Petroleum Co.'s No. 1 Elmira Magrill, oil sand 3,666-93 feet, top Georgetown lime 3,728 feet, initial production 60 bbls. per hour on eleven-sixteenths-inch tubing choke, total depth 3,748 feet.

Mid-Kansas Oil & Gas Co.'s No. 1 Hughey, top sand 3,503 feet, initial production 105 bbls. in 30 minutes through open tubing, total depth 3,525 feet. Brandon & McCamey's No. 1 W. Smith, top sand 3,545 feet, initial production 130 bbls. per hour through three-fourths-inch tubing choke, total depth 3,576 feet. Humble Oil & Refining Co.'s No. 3 Knowles, top sand 3,547 feet, base 3,616 feet, initial production 111 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth 3,618 feet.

Magnolia Petroleum Co.'s No. 1 Jessie King, top sand 3,684 feet, initial production 125 bbls. per hour through three-fourths-inch tubing choke, total depth 3,686 feet. Trapshooter Reilly's No. 1 Mitchell, top sand 3,568 feet, initial production 130 bbls. per hour through three-fourths-inch tubing choke, total depth 3,621 feet. Weaver-Crim's No. 3 Laird, top sand 3,572 feet, initial production 210 bbls. per hour through open tubing, total depth 3,600 feet.

Shell Petroleum Corp.'s No. 1 F. W. Willoughby, top sand 3,540 feet, initial production 205 bbls. per hour through open tubing, total depth 3,694 feet. Same corporation's No. 1 King, top sand 3,640 feet, initial production 108 bbls. per hour through open tubing, total depth 3,646 feet. Same corporation's No. 2 W. W. Elder, top sand 3,544 feet, initial production 214 bbls. per hour through open tubing, total depth 3,604 feet. Nat Hunter's No. 1 Goyne, abandoned location. East Texas Refining Co.'s No. 1 Mitchell, top sand 3,557 feet, initial production 388 bbls. per hour through open tubing, total depth 3,592 feet.

Rusk County

Magnolia Petroleum Co.'s No. 1 Eaton, top Pecan Gap 2,730 feet, base Pecan Gap 3,132 feet, top Austin chalk 3,580 feet, base 3,680 feet, sand 3,733-49 feet, initial production 572 bbls. per hour open through tubing and casing, total depth 3,749 feet. E. W. Jones' No. 1 W. R. Moore, top Pecan Gap 2,675 feet, base 3,050 feet, top Austin chalk 3,500 feet, base 3,547 feet, sand 3,670-3,705 feet, initial production 198 bbls. per hour open through tubing, total depth 3,705 feet. H. L. Hunt's No. 4 Young, top Pecan Gap 2,700 feet, base 3,050 feet, top Austin chalk 3,516 feet, base 3,635 feet, sand 3,-678-3,710 feet, initial production 63 bbls. per hour open through tubing, total depth 3,710 feet.

Humble Oil & Refining Co.'s No. 1 Mattie Wooster, top Pecan Gap 2,730 feet, base 3,141 feet, top Austin chalk 3,584 feet, base 3,738 feet, sand 3,738-82 feet, initial production 69 bbls. per hour open through tubing, total depth 3,819 feet. Same company's No. 7 Kangerga, top Pecan Gap 2,704 feet, base 3,064 feet, top Austin chalk 3,500 feet, base 3,645 feet, sand 3,662-96 feet, initial production 72 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth 3,-696 feet. Haynes and others' No. 2 Lee, top Pecan Gap 2,645 feet, base 3,020 feet, top Austin chalk 3,472 feet, base 3,-572 feet, sand 3,632-77 feet, initial production estimated 6,500 bbls. per day through tubing, total depth 3,677 feet.

Gulf Production Co.'s No. 3 Grissom, top Pecan Gap 2,674 feet, base 3,065 feet, top Austin chalk 3,484 feet, base Austin chalk 3,649 feet, sand 3,649-59 feet, initial production 165 bbls. per hour open through tubing, total depth 3,659 feet. Same company's No. 1 Grissom, top Pecan Gap 2,730 feet, base 3,128 feet, top Austin chalk 3,604 feet, base Austin chalk 3,727 feet, sand 3,727-42 feet, initial production 155 bbls. per hour, total depth 3,742 feet.

Foster and Deep Rock Oil Co.'s No. 3 Holland, top Pecan Gap 2,680 feet, base 3,080 feet, top Austin chalk 3,550 feet, base 3,655 feet, sand 3,679-3,715 feet, initial production 750 bbls. first 12 hours through 1-inch tubing choke, total depth 3,716 feet. Federated Oil Corp.'s No. 1 Holland, top Pecan Gap 2,690 feet, base 3,051 feet, top Austin 3,490 feet, base 3,-610 feet, initial production 500 bbls. first 3½ hours through casing, total depth 3,-686 feet. F. H. E. Oil Co.'s No. 1 Thompson, top Pecan Gap 2,679 feet, base Pecan Gap 3,138 feet, top Austin chalk 3,641 feet, base Austin chalk, 3,-687 feet, sand 3,687-3,727 feet, initial production 155 bbls. per hour open through tubing, total depth 3,727 feet.

Anderson's No. 2 Giles, top Pecan Gap 2,675 feet, base 3,100 feet, top Austin chalk 3,500 feet, base Austin 3,670 feet, sand 3,670-3,700 feet, initial production 73 bbls. first 15 minutes through tubing, total depth 3,755 feet. Strickland's No. 2 Blackwell, top Pecan Gap 2,680 feet, base 3,045 feet, top Austin chalk 3,484 feet, base 3,597 feet, sand 3,675-3,703 feet, initial production 215 bbls. first 15 minutes open through casing, total depth 3,703 feet. Sinclair Oil & Gas Co.'s No. 3 Kinney, top Pecan Gap 2,690 feet, base 3,045 feet, top Austin chalk 3,525 feet, base Austin 3,644 feet, sand 3,645-58 feet, initial production 474 bbls. first 2 hours through tubing, total depth 3,658 feet. Sinclair Oil & Gas Co.'s No. 2 W. D. Kinney, top Pecan Gap 2,665 feet, base 3,055 feet, top Austin chalk 3,553 feet, base 3,614 feet, sand 3,666-81 feet, initial production 620 bbls. in 5 hours through tubing, total depth 3,681 feet.

Phillmack's No. 1 Keeling, top Pecan Gap 2,765 feet, base Pecan Gap 3,152 feet, top Austin chalk 3,629 feet, base 3,670 feet, sand 3,732-59 feet, initial production 750 bbls. in 24 hours through five-sixteenths-inch choke on casing, total depth 3,759 feet. Petroleum Marketing Co.'s No. 1 Keeling, top Pecan Gap 2,-758 feet, base 3,146 feet, top Austin 3,-574 feet, base 3,685 feet, sand 3,727-45 feet, initial production 93 bbls. first 10 minutes through casing, total depth 3,790 feet. Mid-Kansas Oil & Gas Co.'s No. 3 Moore, top Pecan Gap 2,675 feet, base Pecan Gap 3,019 feet, top Austin chalk 3,495 feet, base Austin chalk 3,583 feet, sand 3,646-57 feet, initial production 112 bbls. first hour through tubing, total depth 3,657 feet.

Humble Oil & Refining Co.'s No. 1 Plowman, top Pecan Gap 2,750 feet, base 3,145 feet, top Austin chalk 3,585 feet, base 3,689 feet, sand 3,760-85 feet, initial production 189 bbls. first three hours through eleven-sixteenths-inch choke on tubing, total depth 3,785 feet. Same company's No. 9 Kangerga, top Pecan Gap 2,709 feet, base Pecan Gap 3,068 feet, top Austin chalk 3,528 feet, base 3,605 feet, sand 3,649-71 feet, initial production 50 bbls. first hour on eleven-sixteenths-inch tubing choke, total depth 3,671 feet. Hoosier's No. 2 Taliaferro, top Pecan Gap 2,685 feet, top Austin chalk 3,494 feet, base 3,585 feet, no sand calls, initial production 140 bbls. per hour through casing, total depth 3,740 feet.

Golding & Murchinson's No. 1 Blackwell, top Pecan Gap 2,700 feet, base Pecan Gap 3,031 feet, top Austin chalk 3,515 feet, base 3,590 feet, sand 3,697-3,703 feet, initial production 600 bbls. per hour open through casing, total depth 3,703 feet. East Texas Refining Co.'s No. 1 Grissom, top Pecan Gap 2,765 feet, base 3,158 feet, top Austin 3,558 feet, base 3,660 feet, sand 3,726-48 feet, initial production 192 bbls. per hour open through tubing, total depth 3,748 feet.

Consolidated Oil Corp.'s No. 3 Jobe, top Pecan Gap 2,450 feet, base 3,030 feet, top Austin chalk 3,510 feet, base 3,561 feet, sand 3,533-41 feet, initial production 240 bbls. per day on pump, total depth 3,685 feet. Cochran & Smith's No. 1 Cansler, top Pecan Gap 2,645 feet, base Pecan Gap 3,080 feet, top Austin chalk 3,580 feet, base 3,645 feet, sand 3,729-35-58-80 feet, initial production 3,400 bbls. per day through tubing, 8,000 bbls. per day through casing, total depth 3,780 feet. Calloway and others' No. 1 Harmon, top Pecan Gap 2,742 feet, base 3,148 feet, top Austin chalk 3,588 feet, base Austin chalk 3,662 feet, sand 3,737-68 feet, initial production 90 bbls. per hour through three-fourths-inch tubing choke, total depth 3,768 feet.

Turman's No. 4 Young, top Pecan Gap 2,680 feet, base 3,070 feet, top Austin chalk 3,539 feet, base Austin 3,676 feet, sand 3,676-3,702 feet, initial production 75 bbls. per hour open through tubing, total depth 3,702 feet. Tidal Oil Co.'s No. 2 Thompson, top Pecan Gap 2,665 feet, base 3,067 feet, top Austin chalk 3,497 feet, base 3,634 feet, sand 3,668-3,717 feet, initial production 1,081 bbls. in 24 hours through seven-sixteenths-inch tubing choke, total depth 3,721 feet. Tidal Oil Co.'s No. 2 Shaw, top Pecan Gap 2,680 feet, top Austin chalk 3,523 feet, top of sand 3,680 feet, initial production 1,013 bbls. through one-sixty-fourth-inch tubing choke in 24 hours, total depth 3,768 feet.

Reed and Reed's No. 1 Thompson, top Pecan Gap 2,730 feet, base Pecan Gap 3,150 feet, top Austin chalk 3,595 feet, base Austin chalk 3,685 feet, sand 3,751-83 feet, initial production 330 bbls. per hour open through casing and tubing, total depth 3,783 feet. Abercrombie and others' No. 6 Cantrell, top sand 3,707 feet, base 3,713 feet, initial production estimated 115 bbls. per hour through three-eighths-inch tubing choke, total depth 3,717 feet. Elzy Drilling Co.'s No. 1 George Thompson, top sand 3,671 feet, base 3,718 feet, initial production 65 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth 3,721 feet.

Humble Oil & Refining Co.'s No. 22 L. D. Crim, top sand 3,605 feet, initial production 137 bbls. per hour through three-quarters-inch tubing choke, total depth 3,645 feet. Louisiana Oil & Refining Co.'s No. 1 Mayfield, top sand 3,624 feet, initial production 115 bbls. per hour through open tubing, total depth 3,-685 feet. Magnolia Petroleum Co.'s No. 2 Moore, top sand 3,661 feet, initial production 99 bbls. in 15 minutes through open casing, total depth 3,666 feet.

Republic Production Co.'s No. 2 Leverett, top sand 3,611 feet, initial production 230 bbls. per hour through open tubing, total depth 3,651 feet. Southern Crude Oil Purchasing Co.'s No. 1 C. Smith, top sand 3,728 feet, initial production 144 bbls. in 2 hours through thirty-eight-sixty-fourths-inch tubing choke, total depth 3,764 feet. Stanolind Oil & Gas Co.'s No. 1 M. E. King, top sand 3,684 feet, base 3,725 feet, initial production 267 bbls. per hour through open tubing, total depth 3,726 feet.

Tidal Oil Co.'s No. 4 Bean, top sand 3,579 feet, initial production 390 bbls. in one hour through open tubing, total depth 3,652 feet. Turman Oil Co.'s No. 3-A Brightwell, top sand 3,590 feet, initial production 280 bbls. per hour through open tubing, total depth 3,617 feet. Shell Petroleum Corp.'s No. 2 J. B. Watson, top sand 3,592 feet, initial production 4,500 bbls. in 2 hours on various chokes, total depth 3,664 feet. Same corporation's No. 1 Rosa Russell, top sand 3,628 feet, initial production 165 bbls. per hour through open tubing, total depth 3,666 feet.

Rector and Davis' No. 1 Brightwell, top sand 3,806 feet, initial production 176 bbls. per hour through open tubing, total depth 3,810 feet. C. H. Lyon's No. 1 Ladd, top sand 3,642 feet, initial production 84 bbls. per hour through three-quarters-inch choke, total depth 3,662 feet. Gulf Production Co.'s No. 4 Laird, top sand 3,588 feet, initial production 103 bbls. per hour through three-quarters-inch tubing choke, total depth 3,598 feet.

Tucker and others' No. 1 D. Wills, top sand 3,669 feet, initial production 90 bbls. in 30 minutes through three-fourths-inch tubing choke, total depth 3,677 feet. Turman's No. 2-A Brightwell, top sand 3,630 feet, initial production 50 bbls. per hour through three-fourths-inch tubing choke, total depth 3,670 feet. Humble Oil & Refining Co.'s No. 1 J. Silvey, top Pecan Gap 2,750 feet, base 3,146 feet, top Austin chalk 3,587 feet to 74 feet, sand 3,758-74 feet, initial production 155 bbls. per hour open through tubing, total depth 3,774 feet.

Griffith's No. 1 Lowe, top Pecan Gap 2,825 feet, base 3,140 feet, top Austin chalk 3,535 feet, top Georgetown lime 3,758-68 feet, dry and abandoned, total depth 3,768 feet. West Texas Oil & Royalty Co.'s No. 1 King, top Pecan Gap 2,630 feet, base Pecan Gap 3,100 feet,

base Austin chalk 3,737 feet, dry and abandoned, total depth 3,772 feet.

Smith County

Sun Oil Co.'s No. 1 J. Henson, top Pecan Gap 2,702 feet, base 3,093 feet, top Austin chalk 3,514 feet, base 3,670 feet, sand 3,685-95 feet, initial production 97 bbls. per hour through tubing, total depth 3,695 feet. Sun Oil Co.'s No. 1 J. J. Denton, top Pecan Gap 2,704 feet, base 3,147 feet, top Austin chalk 3,535 feet, base 3,653 feet, sand 3,695-3,702 feet, initial production 170 bbls. in 30 minutes through tubing, total depth 3,702 feet.

Concord Oil Co.'s No. 1 Wolford, top Pecan Gap 2,760 feet, base 3,024 feet, top Austin chalk 3,558 feet, base 3,663 feet, sand 3,715-18 feet, initial production estimated 300 bbls. per hour open through casing total depth 3,718 feet. Big Indian Oil Co.'s No. 1 Wolford, top Pecan Gap 2,690 feet, base top Austin chalk 3,545 feet, base 3,625 feet, sand 3,709-16 feet, initial production 300 bbls. per hour open through casing, estimated, total depth 3,716 feet. J. D. Kugle's No. 1 Morgan Freeman, dry and abandoned, total depth 3,681 feet.

Henderson County

Arcadia Refining Co.'s No. 1 J. M. Dean, dry and abandoned, total depth 4,206 feet, top Pecan Gap 2,433 feet, base 2,620 feet, top Austin chalk 3,330 feet, top Woodbine sand 3,806 feet.

Hopkins County

Abers, Alsup & Bolling's No. 1 McKay, oil hole drilled by Texas Pacific Coal & Oil Co., will not deepen.

Nacogdoches County

Joiner and others' No. 1 Reeves, dry and abandoned, total depth 4,051 feet. Upland Oil Co.'s No. 1 C. M. Cooper, dry and abandoned, total depth 4,055 feet.

Upshur County

Arcadia Refining Co.'s No. 1 P. S. Johnson, Pecan Gap 2,461-2,930 feet, Austin chalk 3,429-3,446 feet, hard dry sand 3,760-80 feet, dry and abandoned, total depth 3,780 feet. Humble Oil & Refining Co.'s No. 1 J. K. Edwards, oil sand 3,611-38 feet, initial production 70 bbls. per hour through three-fourths-inch tubing choke, total depth 3,638 feet. Magnolia Petroleum Co.'s No. 1 Howard Hampton, oil sand 3,696-3,709 feet, initial production 103 bbls. per hour through 1-inch choke, total depth 3,709 feet.

STATEMENT SHOWING ALLOWANCE AND PIPE LINE RUNS LATHROP POOL, GREGG COUNTY, TEXAS, MAY 16 TO 31, 1931

Company and lease—	Well No.	Allowance (bbls.)	Pipe line runs
Arkansas Fuel Oil:			
Lathrop-A	1-5	11,456	13,116
Lathrop-A	2-4	11,456	13,116
Lathrop-A	3	6,112	6,910
Lathrop-B	1	11,968	13,042
Lathrop-C	1	12,704	14,563
Hestland	1	9,776	11,194
McKinley-A	1	13,072	19,490
McKinley-A	2	600	32,030
Harrison	1	16,256	17,345
Castleberry	1	1,200	1,269
Calvin	1	300	422
McKinley	1	200	....
Total		95,100	142,497
Angeline-Burnett:			
McGrede	1	6,128	....
Blackstock:			
McGrede	1	5,824	....
Bridwell Oil Co.:			
Magrill	1	9,488	6,115
Barnsdall Oil Co.:			
McGrede	1	11,504	....
McGrede	2	300	....
Total		11,804	....
Blacknight Oil Co.:			
McGrede	1	7,328	....
Badgett & Cooper:			
Clemmons	1	9,888	9,672
Roberts Bowles Oil Co.:			
McKinley	1	1,100	1,502
Columbia O.&G. Co.:			
Harley	1	6,936	4,883
Christian	1	500	....
Snoddy	1	200	....
Total		6,636	4,883
Cranfill-Reynolds:			
McGrede	1	6,112	150,778
Barton	1	400	841
Total		6,512	151,619
Corley & Blair:			
Bumpas	1	900	....
Danciger O.&R. Co.:			
Magrill	1	11,488	12,003
Delaney et al:			
Clemmons	1	12,224	3,667
E. Tex. O. & R. Co.:			
Fisher	1	5,136	5,136
Fisher	2	10,448	11,164
Caldwell	1	6,608	6,608
Caldwell	2	10,688	6,910
Total		32,880	29,818
Eslick & Little:			
Nicholson	1	12,224	7,046
Falvey Oil Co.:			
Collins	1	300	....
Fleetborn O. Corp.:			
Edwards	1	700	....
F. H. E. Oil Co.:			
Flemister	1	14,432	1,685
Flannigan Oil Co.:			
Green	1	6,112	5,755
F. & M. Drig. Co.:			
Moser	1	1,600	....
Flannery & Bradley:			
York	1	1,300	....
Gulf Prod. Co.:			
Clemmons	1	300	....
Fishburn	1	1,100	....
Shepherd	1	400	....
Total		1,800	....
Guiberson Oil Co.:			
Stuckey	1	100	....
Hawkeye Pet. Co.:			
McKinley	1	500	....
Heyser & Heard:			
Hineman	1	500	....
Humble O.&R. Co.:			
Armstrong	1	1,100	....
Carter	1	400	....
Johnston	1	1,500	....
Total		2,800	....
Jones-O'Brien:			
McHaney	1	500	....
H. W. Lampton:			
Chapel	1	5,568	3,644
I. C. Little:			
Chapel	1-2	5,568	2,731
Lucey Pet. Co.:			
Christian	1	12,224	1,705
Magnolia Pet. Co.:			
Rodden	1-2-4-5-6	10,880	14,756
Rodden	3	5,744	5,744
McKinley	1	10,512	10,805
Total		27,136	31,305
Marlin Oil Synd.:			
School Lot	1	5,712	10,600
McMillan Pet. Co.:			
Fenton	1	11,728	105,827
H. S. Moss et al:			
Tenery	1	5,984	8,161
Mid-Kansas O.&G.:			
Castleberry	1	8,912	12,000
Nettleton	1	1,100	2,191
Nettleton	2	200	....
Total		10,212	14,191
Mudge Oil Co.:			
Richardson	1	12,464	....
Mullendore, Berry & Berry:			
Magrill	1	10,624	8,420
Navarro Oil Co.:			
Tenery	1	4,400	4,738
O. W. R. Oil Co.:			
Davis	1	300	....
Olvey & Sample:			
Rodden	1	5,616	6,640
Pilot Oil Co.:			
McGrede	1	7,632	167,286
McGrill	1	1,200	36,000
Total		8,832	203,286
Primrose Pet.:			
Blackstock	1	300	....
Republic Prod.:			
Fisher	1	10,144	10,795
Fisher	2	1,000	....
Total		11,144	10,795
Roeser & Pendleton:			
Fenton	1	6,112	4,034
Rodden	1-2	12,743	10,055
Total		18,855	14,089
Simms Oil Co.:			
Tenery	1	5,680	5,977
Tenery-A	1	5,376	1,409
Total		11,056	7,386
Stanolind O. & G.:			
Tenery-A	1	6,112	6,109
Tenery-B	1	5,920	6,181
Snoddy	1	6,112	6,254
Magrill	1	400	24,170
Total		18,544	42,714
Shano Oil Co.:			
Christian	1	12,224	3,466
Fenton	1	800	600
Total		13,024	4,066
Sinclair O. & G. Co.:			
Moncrief	1	1,000	....
Moncrief	2	900	....
Moncrief	3	500	....
Total		2,400	....
Selby O. & G. Co.:			
Snaveley	1	15,888	....
B. A. Skipper Oil:			
Snoddy	1	6,720	2,799
Skipper-Bivins:			
Magrill	1	6,112	7,535
Skipper-Hall-Tippett:			
McKinley	1	10,512	....
Smitherman-Green:			
Jones	1	1,000	....
Sultan Oil Co.:			
Stuckey	1	12,832	2,640
Tidal Oil Co.:			
Lathrop	1	8,304	8,300
T. P. Coal & Oil:			
Hampton	1	1,600	....
Woodley Pet. Co.:			
Walker	1	11,760	9,301
Yount Lee Oil Co.:			
Davis	1	12,224	13,102
Fenton-A	1	1,100	860
Fenton-B	1	700	457
Lathrop-B	1	10,992	11,037
Lathrop-B	2	9,776	9,872
Denson	1	12,576	13,567
McKinley-A	1	13,808	13,909
McKinley-B	1	400	....
Rodden	1	1,600	1,294
Total		63,176	64,098
Grand total		599,763	951,233

NORTH AND WEST TEXAS

(Continued from Page 42)

Whittenburg, total depth 3,043 feet, top pay 3,009 feet, shot 90 quarts 3,005-43 feet, initial production 125 bbls.

Wheeler County

C. Vollmert's No. 1 Porter, location abandoned.

TEXAS PANHANDLE

Carson County

Interstate Production Co.'s No. 1 C. S. Seiber, in the C NW, Section 10, Block 1, I.&G.N. Survey.

Gray County

Parton and Holt's No. 1 J. S. Morse, 330 feet north and west from the SE cor. NE, Section 6, Block 26, H.&G.N. Survey.

NORTH TEXAS PRODUCTION
Week Ending June 13

Panhandle district—	Bbls.
Carson County	5,313
Gray County	42,180
Hutchinson County	9,900
Moore County	374
Wheeler County	196
Total production this week	57,963
Total production last week	60,046
Decrease	2,083
Wichita Falls district—	
Archer County	11,664
Baylor County	464
Clay County	570
Cooke County	1,738
Foard County	66
Jack County	2,096
Haskell County	25
Montague	3,476
Throckmorton County	359
Wilbarger County	8,881
Wichita County	18,445
Young County	12,161
Total production this week	60,945
Total production last week	59,786
Increase	1,159
Ranger district—	
Brown County	3,164
Callahan County	2,322
Coleman County	1,702
Comanche County	792
Palo Pinto County	305
Eastland County	3,120
Shackelford County	3,763
Stephens County	4,380
Total production this week	19,548
Total production last week	19,622
Decrease	74

WEST TEXAS PRODUCTION

Ector County

Galt Brown Co. and Penn Oil Co.'s No. 1 Cowden, dry and abandoned, total depth 4,435 feet, slight show oil 4,040-50 and 4,384-87 feet, top lime 3,990 feet.

Loving County

Lockhart Oil Co., Inc.'s No. 2 fee, abandoned location. Martin's No. 1

El Paso County

Lane-The Texas Company's No. 1 Malone, temporarily abandoned, total depth 3,089 feet.
Johnson, abandoned location.

Pecos County

The California Oil Co.'s No. 1 Thomas, abandoned location.

NORTH CENTRAL AND WEST TEXAS

Ward County

Clide Bradford's No. 1 J. F. York and others, 330 feet from the northeast and southeast lines of Section 10, Block 34, H.&T.C. Survey. J. D. O'Quinn and others' No. 1 A. D. Cummins, 4,300 feet from the northeast and 330 feet from the southeast lines of Section 11, Block 5, H.&T.C. Survey.

Coleman County

Johnson-Mattocks Oil Development Co.'s No. 1 J. J. Gregg, 2,222 feet west and 1,042 feet south from the NE cor., Section 83, E.T. Railway Survey.

Archer County

Skeen and Houghton's No. 1 O. L. Kunkel, 1,330 feet south and 150 feet east from the NW cor., Section 2,419, T. E.&L. Survey. W. C. Young and others' No. 1 G. H. Plowman and others, 150 feet south and east from the northwest corner of Lot 67, Miller Dycus Subdivision, H. Corzaine Survey, Abstract No. 56.

Young County

H. J. Whitaker's No. 1 T. F. Harman, 160 feet south and 575 feet west from the northeast corner of 93-acre tract in the Suzan Sallie Survey. Dwight M. Ross' No. 1 D. C. Ward, 150 feet north and east from the southwest corner of the west 40 acres of the NW, Section 277, T.E.&L. Survey.

Correction

Archer County: J. E. McKanna and others' No. 1 Dr. A. B. Edwards, 1,400 feet south and 600 feet east from the NW cor., Section 20, Lula P. Hunt Subdivision.

SHIPMENTS THROUGH TRUNK LINES

Company, size, location—	Bbls.
Atlantic, 10-in., Houston	none
Gulf, 10-in., Ranger	35,318
Humble, 10-in., San Angelo	21,113
Humble, 10-12-in., Comyn	47,780
Illinois, 2-8-in., Del Rio	26,300
Magnolia, 8-in., DeLeon	19,644
Pasotex, 8-in., El Paso	9,467
Shell, 10-in., Healdton	29,379
Shell, 10-in., Houston	26,674
Texas, 12-in., Houston	17,221
Total	232,896

SHIPMENTS TO REFINERIES

	Bbls.
Big Spring Ref. Co., Big Spring	869
Burford Ref. Co., Pecos	4,260
Cosden Ref. Co., Big Spring	7,945
Col-Tex Ref. Co., Colorado	8,588
Humble O. & R. Co., McCamey	496
Great Western Ref. Co., Big Spring	2,426
Tonkawa Ref. Co., Pyote	1,254
Wickett Ref. Co., Wickett	500
Total	26,338

TANK CAR SHIPMENTS

	Bbls.
Shell from McCamey	225
Big Lake from Texon	3,000
Southern C. O. P. Co. from Wickett	10,690
Total	13,915

Total daily average production	248,459
Total daily average distribution	273,149
Daily average from storage	24,690

CLAIM SPEED RECORD IN LINE CONSTRUCTION

(Continued from Page 44)

tion, N. A. Saigh gives special credit to the company's general superintendent, D. J. Matthews, Jr.; to the general foremen, J. F. McCarthy, J. B. Works and G. G. Griffis, as well as to the subcontractors, the C. & C. Construction Co., of Bastrop, La., on pipe stringing, and the A. F. Day Construction Co., of Dallas, and Kane Boiler Works of Galveston, on welding.

Previous to this contract, the Texas Pipe Line Co. awarded to the N. A. Saigh Co. a 51-mile line from Kilgore southward to Douglas, Tex., where it tapped into an existing system. The 51-mile line was laid in the record time of 17 days. On both these contracts the company did not take out sufficient time to test the line with water in the customary manner but pumped oil through instead. No leaks of consequence developed in either line.

PIPE LINE TAX CASE

The Supreme Court of the United States will review the state tax case entitled State Tax Commission of Mississippi vs. Interstate Natural Gas Co. The issue is whether the Mississippi privilege tax on pipe line, measured by size and number of miles of pipe owned and operated within the State, may be imposed upon a foreign corporation, operating a pipe line originating in Louisiana and running into and through Mississippi, when such company sells natural gas in wholesale quantities to two distributors in that State.

RUSSIAN LINE TO UKRAINE

Soviet advices state that a start has been made on the construction of a new pipe line from Armavier to the Ukraine, a distance of about 300 miles. The line is expected to be completed by December 1. Its construction is on the American welded principle. The pipe line will enable industrial areas of the Ukraine to be supplied with Grosny oil, and will relieve the railways of a too heavy oil traffic.

ADJUSTMENT POTENTIALS FOR THE YATES POOL

(Continued from Page 14)

be read directly with no corrections being necessary.

Principal difficulty with this procedure is the difference of opinion as to the numerical value of the original elevation pressure gradient. Therefore, this method was not used at this time.

In considering the matter of correcting the observed pressures to 1,300-foot datum the engineering committee recognized three different sets of conditions, viz.:

1. Wells in which pressures were observed above the 1,300-foot datum.

2. Wells tested with the compressor with the tubing set below the 1,300-foot datum.

3. Wells not tubed in which pressures were observed below the 1,300-foot datum.

Approximately 90 per cent of all necessary corrections were made in fluid using the experimentally established pressure gradient.

This pressure gradient was determined by plotting on co-ordinate paper the observed pressure against the elevation of tests, on every well tested. The plotted points were averaged mathematically and a line drawn through these averaged points, establishing the pressure gradient line of 0.3625 pound per square inch per foot (see graph). The value thus established corroborated the predetermined pressure gradient which was calculated to be 0.374 pound per square inch per foot based on Yates crude oil of 30° A.P.I. gravity saturated with gas at 650 pounds per square inch.

This procedure of using the pressure gradient could not be followed in the case of some of the wells in the (2) and (3) classifications.

These constitute wells with abnormally high well head pressures indicating a low fluid level. When the top of the oil column is below a plus elevation of 1,300 feet, correcting back on the basis of oil would be incorrect, giving a corrected pressure less than the pressure observed at the well head. In view of this the determination of the fluid level became necessary. The following formula applies to the erratic wells in classes (2) and (3):

$$P = P_{wh} + (D - x).3625 + Cx$$

Where P is the pressure at the point of observation, P_{wh} is the well head casing pressure, D is the length of tubing or depth of test, x is depth to fluid level, C is pressure per square inch per foot of column of gas at the well head pressure P_{wh} (derived from curve).

Examples

1. Test with compressor.
P = 651 pounds.
P_{wh} = 599 pounds.
D = 1,409 feet.
C = .016 pound per square inch per foot.
Then:

$$651 = 599 + (1{,}409 - x).3625 + .016x$$

Solving for "x": "x" = 1,325 feet; or, fluid level was standing 84 feet above the bottom of tubing.

Correction to 1,300-foot datum = 136 feet; 84 feet to be corrected in oil and 52 feet in gas.
Hence:

$$P_{1300} = 651 - (84 \times .3625) - (52 \times .016) = 620 \text{ pounds per square inch}$$

2. Test with recorder in untubed wells.
P = 600 pounds.
P_{wh} = 494 pounds.
D = 1,214 feet.
C = .013.
Then:

$$600 = 494 + (1{,}214 - x).3625 + .013$$

Solving for "x": "x" = 956 feet; or, fluid level was standing 256 feet above the point of test.

Correction to 1,300-foot datum = 25 feet; 25 feet to be corrected in fluid.
Hence:

$$P_{1300} = 600 - (25 \times .3625) = 591 \text{ pounds per square inch}$$

Adjustment of Potentials

As explained before, it was recommended that the 1929 open flow tests be reduced in direct proportion to the pressure decline. Having adopted 700 pounds as the original pressure at a 1,300-foot datum and having reduced all present observed pressures to that datum, the adjustments of potentials are derived as in the following manner:

1. The 1929 open flow test, 2,000 bbls. per hour.
2. Original pressure, 700 pounds per square inch at 1,300 feet.
3. Present pressure at 1,300 feet elevation, 625 pounds per square inch.

$$2{,}000 \times \frac{625}{700} = 1{,}785.7 \text{ bbls. per hour, the new potential}$$

General Discussion

After two years of prorated production based on the 1929 open flow tests, a general feeling prevailed among the operators that the well potentials should either be verified or that new potentials should be established. This feeling is justified as shown by a study of special charts showing the relation between reservoir pressures and total withdrawal which is especially noticeable in low potential area. There are a number of factors which may have caused the 1929 potentials to become obsolete.

First, due to a general decline of reservoir pressure, which is normally to be expected even under prorated flow, the potentials established by the 1929 open flow tests at the then prevailing pressure may have become inequitable.

Second, this condition is aggravated by excessive withdrawal of oil or gas in any local area due either to wastage, special allowances or presence of water.

Third, gas has been conserved on some properties while no attempt to conserve it has been made on adjacent properties.

Fourth, wells completed since July, 1929, may have had the effect of reducing the potentials of nearby wells.

Fifth, it is known that some wells have a rated potential in excess of their present maximum capacity.

After the submittal of the engineering committee's report of November, 1930, in which three methods were considered, the committee was instructed to continue the study of the shut-in reservoir pressure decline method.

The results of this study are presented in their application to the proration of the pool, in the appendix. It will be noted therein that the allowable production of any individual property has not been unduly or materially affected, which indicates that the adjusted potentials are equitable to all operators.

It is realized that there is a necessity for some method of penalizing wells which are making water with the oil. The proposed method provides means for partial penalty on such wells.

Since the presence of water in a well increases the weight of the column which in turn increases the back pressure on the formation; the observed pressure at a given datum (1,300 feet) is less than it would be if oil only were present in the hole. The penalty, therefore, is the equivalent of the difference in the density of the two columns. This obviously provides a penalty up to the elevation of the point of pressure observation.

The committee is now making a study of the water situation in the field with a view of making specific recommendations as to whether or not any further adjustments will be necessary in the future.

From a study of the pressure oil rate method, results of which are contained in the previous engineering report, it became evident that well potential is a function of reservoir pressure. It then follows that a decline in reservoir pressure will result in a decreased potential.

Conclusions

1. The method presented in this report tends to eliminate the local low-pressure areas through restricting production of wells in those areas.

2. It will tend to cause a more uniform encroachment of water, and will minimize fingering-in and subsequent trapping.

3. Potential is a function of the reservoir pressure.

4. The method is sound and equitable, although not theoretically correct.

5. This method of testing is economical because:
(a) Low cost of making tests.
(b) No excess oil is accumulated on the surface.
(c) Eliminating surplus equipment such as flow lines, tanks, etc.

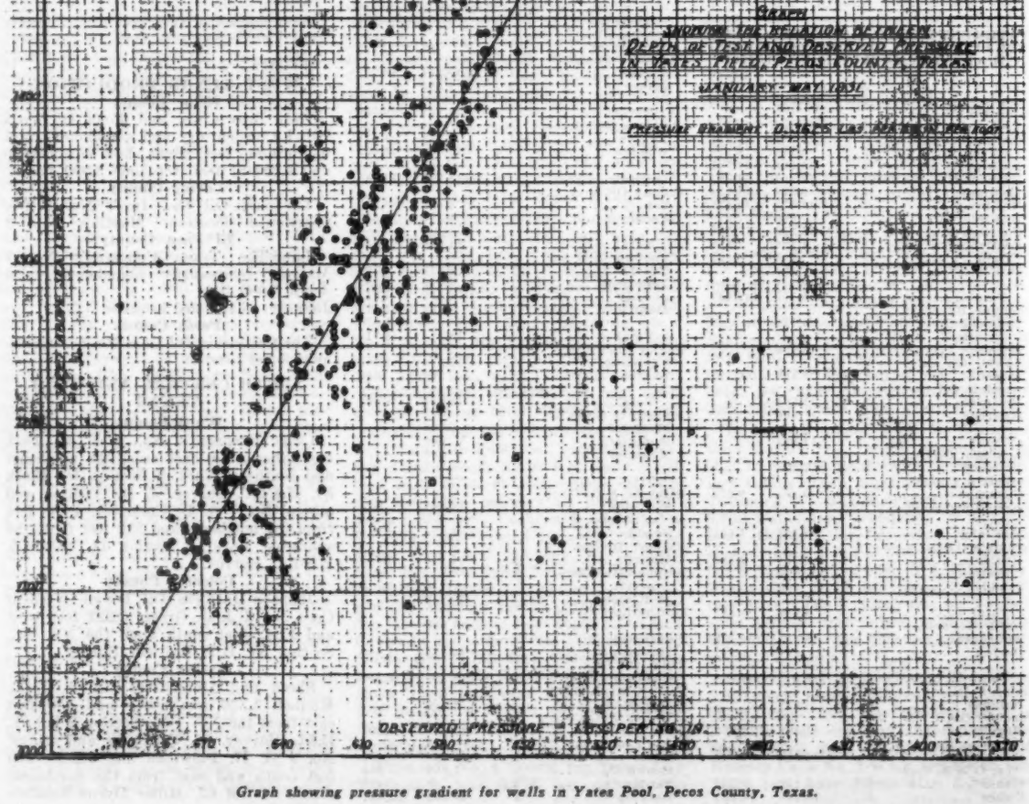
6. The importance of the data collected in the course of accomplishing this work will possess from year to year accumulative value in the consideration of any production problems.

A.I.M.E. ANNUAL

The 1931 edition of Petroleum Development and Technology has just been issued by the American Institute of Mining and Metallurgical Engineers containing 65 papers covering most of the newer developments in technical information on unit operation, petroleum engineering, research engineering, economics and world production. These papers were presented at the Tulsa and Los Angeles meetings in October, 1930, and the annual meeting in New York City, February, 1931. The book contains 657 pages with index and is priced at $5 net to nonmembers of the Institute and may be ordered from the A.I.M.E., 29 West Thirty-ninth Street, New York City.

ECUADOR OIL EMBARGO

A Guayaquil, Ecuador, dispatch reports that the government will place an embargo upon imports of crude oil, gasoline, kerosene and fuel oils to aid domestic producers. According to present laws the government can also fix the price of petroleum products of domestic production, so a decree to this end is most probable.


GRAPH
SHOWING THE RELATION BETWEEN
DEPTH OF TEST AND OBSERVED PRESSURE
IN YATES FIELD, PECOS COUNTY, TEXAS
JANUARY - MAY 1931
OBSERVED PRESSURE - POUNDS PER SQUARE INCH

Graph showing pressure gradient for wells in Yates Pool, Pecos County, Texas.

TEMPORARY INJUNCTION GRANTED CHAMPLIN CO.

GUTHRIE, Okla., June 13.—The Federal District Court, with three judges sitting, today issued a temporary injunction ordering the State of Oklahoma and the attorney general to refrain from penalizing the Champlin Refining Co. for alleged overproduction of crude oil from four wells in the Oklahoma City Field. The injunction is to be effective until further order of the Federal District Court or until the Supreme Court of the United States passes on the validity of the Oklahoma state conservation law in the case appealed to the highest court by the Champlin Refining Co.

The decision of the three Federal judges was made after a temporary injunction had been obtained in the Oklahoma County District Court by the state attorney general restraining the Champlin Refining Co. from operating or producing four wells in the Oklahoma City Field which it was alleged had produced 300,000 bbls. more than the allowable. The attorney general was attempting to get a receivership appointed for the four wells.

A bond of $200,000 will be required to pay all damages that might accrue to adjoining properties through drainage by the Champlin Refining Co. The three Federal judges in preventing both the receivership suit and granting of the temporary injunction, held that the Champlin Refining Co. might produce no more than 10,000 bbls. a day from the four wells if it continued to violate the proration order. The Champlin Refining Co.'s attorneys were given 10 days to furnish the bond.

The hearing to make the injunction permanent probably will be held in Oklahoma City the first week in July, but it will probably be October before the United States Supreme Court will issue a decision as to the validity of the State's proration law. Federal Circuit Court Judges Ora L. Phillips, New Mexico; John H. Cotteral, Oklahoma; and Federal District Judge F. E. Kennamer, Tulsa, issued the decision.

One of the judges said he believed the penalty was severe and as a matter of equity should be stayed, but did not believe the company should be allowed to produce more than the allowable fixed by the Oklahoma Corporation Commission.

The attorney for the corporation commission said the amount allowable under the proration order for the four wells is around 2,000 bbls. a day.

Federal Judge Phillips said that it was not the intention of the court to destroy proration in Oklahoma but to give relief to the Champlin Refining Co. while it is making a test case. All three judges pointed out that the constitutionality of the state conservation act itself was not before the court, but only the question of staying the penalties the State sought to enforce against the company while its appeal was pending.

During the hearing the State alleged the Champlin Refining Co. had filed a gross production tax report with the state auditor showing only the allotted runs, then later filed a supplementary report showing 177,000 bbls. of overproduction. The company denied the allegation it was attempting to conceal the overrun oil, but that the tax was paid on all the oil produced and both reports were filed at the same time. The Champlin Refining Co. charged the corporation commission had not prosecuted 80 alleged violations of the proration law by major oil companies called to its attention by Champlin Refining Co.'s watchers.

The Champlin company claimed virtual destruction would result if its wells were shut down by the State while it prosecuted an appeal.

F. M. HOLLIDAY DIES

BUTLER, Pa., June 13.—Francis M. Holliday, aged 66, employed by the National Transit Co. as an oil gauger for 50 years, died after a three months' illness. He was born in Hollidaysburg.

O. P. COTTRELL JOINS EDELEANU COMPANY, LTD.

O. P. Cottrell, who has been manufacturing manager for the Associated Oil Co., San Francisco, Calif., for several years has resigned to take charge of the management in United States of the Edeleanu Co., Ltd. The latter company has perfected a treating process which is used by several refining companies in United States and foreign countries.

Mr. Cottrell was born in Keyport, N. J., and graduated in chemical engineering at Columbia University. His first contact with the oil industry was in 1917 when he was employed by the Tide Water Oil Co. as research chemist. He resigned from the Tide Water in 1919 and joined the Associated Oil Co. as a research chemist.

With the Associated he held various positions in the refining department devoting a large part of his time to the manufacture of lubricating oils. He became vice chairman of the company's manufacturing committee and in 1925 was made chairman. In 1922, he made an investigation which resulted in his company installing the first Edeleanu unit at a refinery in United States. The uses of the process in refinery operation have been extended due to the research and development work carried on under Mr. Cottrell's direction.

Mr. Cottrell was made manufacturing manager in 1927 and held that position until his resignation.

TOPPING AND CRACKING VAN TEXAS CRUDE

(Continued from Page 22)

a high percentage of aromatics and unsaturates, but no naphthene hydrocarbons were formed, contrary to expectations.

The percentages of the various hydrocarbons in the cracked gasoline from Van topped crude follow:

Hydrocarbons	Per cent
Unsaturates	22.2
Aromatics	35.2
Naphthenes	0.0
Paraffins	42.6

B—Flashed Residues

Flashed residues obtained from these cracking tests ranged in gravity, for the various runs, from 16.6° A.P.I. to 1° A.P.I. Their properties are summarized in the following table:

Test No.	1	2	3	4	5	6	7	8	9
Residue (% of charge)	62.1	58.7	47.7	46.6	42.9	40.0	38.2	36.7	32.3
Gravity A.P.I.	16.3	16.6	10.9	9.2	11.8	9.9	9.5	6.8	1.0
Per cent base sediment and water	0.1	0.1	0.7	0.2	0.4	0.5	0.2	0.1	0.3
Viscosity (Saybolt) Furol at 122° F./sec.	25	26	92	129	78	101	89	166	2,780
Flash (Cleveland) °F.	225	230	250	250	225	250	245	265	250
Firo (Open Cup) °F.	300	305	320	325	365	325	345	365	350
Flash (Pensky Marten) °F.	175	180	205	205	200	205	200	215	230
Cold test °F.	(*)	(*)	..	..	15	..	25	45	55
Per cent sediment (Wiley)	0.04	0.02	..	0.25	0.04	0.30	..	..	0.32

*Below zero.

A.S.T.M. (100 cc. Distillation)									
Initial boiling point °F.	430	430	460	463	490	466	422	464	472
Distilled over at 572° F. per cent	15.0	13.5	6.0	7.5	7.0	7.0	9.0	6.5	5.0

A graphical representation of the relationship of the yield of gasoline and viscosity of the cracked residue is shown in Figure 2.

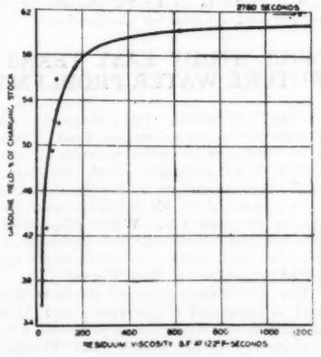


Figure 2—Relation between quantity of overhead and viscosity of residuum.

It is interesting to point out that the base sediment and water content of the cracked residues did not increase materially as a function of increased "depth" of cracking as illustrated by increased yields of motor fuel.

Coking a Cracked Residue

The heavy residuum from test No. 9, the properties of which are given in the above table, was run to coke, and a distillation analysis was made of the overhead product. Two such runs resulted in 25.8 per cent of coke by weight from the first run and 26 per cent from the second. The distillation analyses of the two are shown below:

Gravity, A.P.I.	15.2	13.7
Initial boiling point, °F.	266	254
Endpoint °F.	760 (above)	760 (above)
Per cent over	Temp. °F.	Temp. °F.
10	437	444
20	530	542
30	587	596
40	636	647
50	680	680
60	707	712
70	724	742
80	760	760 (above)
90	760 (above)	760 (above)
Endpoint	760 (above	760 (above)
Per cent over	98.0	98.0
Per cent bottoms	2.0	2.0
Per cent loss	..	..

C—Gas

From 210 to 378 feet of incondensable gas per barrel of charging stock was obtained from cracking Van topped crude. The gas contained approximately 2 gallons of gasoline per 1,000 feet.

Summary of Products

Recapitulating the data on atmospheric and pressure distillation of oil from the Van Pool, the following are the yields of products obtained from the crude. Percentages of products are based on the original crude:

Test No.	1	2	3	4	5	6	7	8	9
Straightrun gasoline, % of crude	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Cracked gasoline, % of crude	25.7	27.7	33.6	34.2	37.2	37.4	39.9	40.6	44.2
Residuum, % of crude	44.5	42.0	34.3	33.4	30.6	28.6	27.3	26.2	23.2
Coke gas and loss, % of crude	2.3	2.8	4.6	4.9	4.7	6.5	5.3	5.7	5.1
Gas (cubic feet per barrel), % of crude	150	168	222	226	214	257	250	250	272

NED ROBBINS NOW WITH OIL WELL SUPPLY CO.

E. E. (Ned) Robbins has been appointed division sales manager of the Midwest division of the Oil Well Supply Co., a subsidiary of the United States Steel Corp., and will have headquarters in Tulsa. In his new capacity he will have charge of sales in the Mid-Continent, Texas, Louisiana, Arkansas, Gulf Coast, Rocky Mountain and Canadian oil fields.

Although young in years, Mr. Robbins

E. E. Robbins

has enjoyed a particularly broad experience. For 10 years he was associated with the McCord Radiator & Manufacturing Co., handling oil field sales in the Mid-Continent and California territories. He was with the National Supply Co. at Tulsa, Okla., for one year in charge of sales of Superior gas engines. During the past five years he has been vice president of the C. F. Camp Co., of Tulsa, Okla., and in this capacity he was instrumental in the advancement and development of gas engines for rotary drilling and contributed much towards the first successful application of this character in the Mid-Continent Field.

Mr. Robbins, who is extremely popular and enjoys a wide acquaintance, assumed his new duties June 15.

STUDY OF SEMINOLE

The Bureau of Mines advises that a second edition of the engineering study of Seminole oil producing area, Oklahoma, known as Report of Investigations, No. 2997, and prepared by R. R. Bradenthaler, W. S. Morris and C. R. Bopp, is now available for distribution.

This report on the Seminole area contains about 181 mimeographed pages of text, 38 illustrations and 38 tables, data pertaining to wells in the area from their initial drilling to the time when many of them no longer produced efficiently on the gas lift and air lift and were pumped by mechanical methods. Valuable references in the Seminole report are the detailed cost figures on the several items of expense for drilling wells and producing oil.

While the second edition is available, copies may be obtained without charge upon request from the United States Bureau of Mines, Washington, D. C., or from the Bureau of Mines Petroleum Experiment Station, Bartlesville, Okla.

WILLIAM F. BORCHERS DIES

William F. Borchers, pioneer of operator of Pennsylvania, died at the home of Judge and Mrs. William E. Walsh, Miami Beach, Fla., on May 13, after a lingering illness.

PENNSYLVANIA GRADE PRODUCERS FEEL PINCH OF LOWERED PRICES

OIL CITY, Pa., June 13.—The recent cut of 25 cents per barrel in the prices paid for Pennsylvania Grade crude oil disturbed operators to such an extent that district meetings have been held by producers in an endeavor to find a way of obtaining a living price for oil. The blame for the condition that caused the recent price cut has been placed on the operators south of the Bradford Field. The most important fields in the old eastern or Pennsylvania Grade division are the Allegany and Bradford districts. In those districts the producers have, it is said, been keeping their production down to refinery requirements, while at the same time the operators in the middle and lower fields have been overproducing.

Constructive steps for the relief of oil producers in the Oil City district were taken at a well attended meeting of the Central Pennsylvania Oil Producers' Association held in the Franklin Chamber of Commerce rooms.

Upon the suggestion of W. K. Borland of Oil City the gathering of 75 men adopted a resolution calling for a meeting of the producers' executive committee with the bankers of Venango, Crawford, Forest and Clarion Counties. The suggestion by Mr. Borland came after a lengthy discussion on curtailment and the remark of one member that "the bankers were not helping." D. B. McCalmont of Franklin, president of the association and chairman of the meeting, was selected to name a committee of producers from each oil producing community to meet with the bankers of their respective districts and seek co-operation.

During the meeting several vital points were brought out; that the price of crude oil is being set by the East Central Texas Field, that proration will help the Pennsylvania producer to keep oil from storage and create a demand for his product, bringing better prices quicker when once business hits the upstride; that the refiners are not making money; that it would be folly to lower the price of Pennsylvania lubricating oil and that every man would curtail if he was assured of financial backing to tide him over until better times.

A 30 to 60-day absolute shutdown was discussed and was endorsed by several producers but was not given sanction by the gathering.

Meeting in Warren

Warren County producers held a meeting in Warren and the spirit of the meeting favored a continuance of proration, and a campaign was started to strengthen the curtailment movement by inducing every producer in the Middle Field, however small his production, to take part.

David B. McCalmont in a statement made in Franklin urged upon Pennsylvania Grade producers to curtail their crude oil output to a point below requirements so that it will be necessary to draw on storage. Overproduction was bound to depress prices, Mr. McCalmont said, and producers could not expect a good price as long as they put themselves in a position where they had to beg some one to buy their oil.

In the Northern Fields

The Oil City Derrick quotes an observer in the Allegany and Bradford Fields as follows:

"The producers in the Allegany and Bradford areas naturally regret the recent reduction in the Pennsylvania crude market. They have prorated their runs for 13 months and have held a large amount of crude from being produced. They firmly believe that their conservation program would have been successful had not the severe industrial depression occurred or the East Texas oil pool been developed. There is no indication that any large producing interest will withdraw from the conservation movement and, in fact, the opposite tendency seems to be prevailing. A number of expressions have been made by smaller interests, who may not be prorating, that they cannot afford to sell crude at the present market.

"The total production in the Allegany Field for the month of May averaged 6,913 bbls. as opposed to 7,119 bbls. in April. This shows a declining tendency. At present this production is only sufficient to meet the requirements of the Sinclair plant at Wellsville. It was estimated that this plant would require 7,500 bbls. daily, but the lessened demand for refined products has decreased their runs to under 7,000 bbls. daily. The position of the Allegany Field is therefore quite strong, and it appears that the corrections necessary to overcome the Pennsylvania situation are not required in this area.

"The total average daily production of the Bradford district in May was 21,638 bbls. as compared with 22,110 bbls. in April, which also registered a declining tendency. The refinery demands of the plants operating exclusively on Bradford crude are now currently running 20,350 bbls. daily, which includes the United group at Warren, but no other plants south of the Bradford area. These figures indicate that the May rate of production was about 1,300 bbls. daily in excess of the local demand and this amount is being added to stocks or being delivered to refineries in the Oil City area. To overcome this situation the local group of refiners should increase their runs by this amount or the producers should decrease their production promptly by this figure.

"It is believed that the total average daily production of all Pennsylvania grades during May will be approximately 60,000 bbls. daily and that the Bureau of Mines figures, when released, will show that about 5,600 bbls. daily were added to stocks. If this is correct, it would appear that 4,300 bbls. daily of the total Pennsylvania produced south of the Bradford area was the excess amount produced. If correct, then the producers in central and southern Pennsylvania, Ohio and West Virginia should aim to reduce their production to equal this figure if there is to be any balancing of supply and demand for the product."

WILL STUDY EAST TEXAS FUTURE WATER PROBLEMS

FORT WORTH, Tex., June 15.—A committee of operators in East Texas have combined to make a study of the future water problems which will eventually face producers in this district, and have appointed G. E. Martin, water expert of the Salt Flats Water Co., which was organized to handle the water situation in that field, as advisor of the water committee of East Texas.

The water committee of the new district is composed of the following: Don R. Gladney, Magnolia Petroleum Co., chairman; M. E. Brock, Gulf Production Co.; T. F. Rothwell, Yount Lee Oil Co.; M. B. Sweeney, Sun Oil Co.; J. R. Gahan, Tidal Oil Co.; E. G. Allen, Shell Petroleum Corp. O. E. Young of the Humble Oil & Refining Co. is chairman of the committee of engineers assisting in the survey.

Pollution of all streams in East Texas is strictly guarded against, consequently none of the salt water from the wells will be permitted to be flowed into these streams, and as there will no doubt be millions of barrels produced in future months, some method will have to be used for disposal of it, and this committee has been formed with the idea of making surveys as the district is drilled up, and before a flood of water engulfs the district, catching the operators unprepared to handle it.

DIES IN VENEZUELA

MEADVILLE, Pa., June 13.—Word of the death at Maracaibo, Venezuela, of C. J. Shirk, 60, veteran of the Pennsylvania and West Virginia oil fields, was received here. Mr. Shirk, employed at Maracaibo by the British-Controlled Oil Fields, Ltd., was injured four weeks ago. He had worked in the fields near Oil City in the McDonald fields, Washington County, and in West Virginia.

NEW COMMITTEES OF NATURAL GASOLINE ASSOCIATION

(Continued from Page 106)

GAS TESTING COMMITTEE

George P. Bunn, chairman	Phillips Petroleum Co.	Bartlesville, Okla.
A. W. Dwen, vice chairman	Crosbie & Maron, Inc.	Tulsa, Okla.
C. L. Baker	The Texas Company	Tulsa, Okla.
Paul M. Bowman	Amerada Petroleum Corp.	Box 597, Earlsboro, Okla.
Paul M. Childers	Continental Oil Co.	Ponca City, Okla.
W. F. Crawford	Deep Rock Oil Corp.	Tulsa, Okla.
W. F. Fulton	United Gas System	Houston, Tex.
H. J. Hunter	Columbian Gasoline Corp.	Fairbanks, La.
Dean Hiatt	Texas Pacific Coal & Oil Co.	Thurber, Tex.
E. C. LeFevre	Empire Oil & Refining Co.	Bartlesville, Okla.
Lee S. Miller	Carter Oil Co.,	Tulsa, Okla.
Norris Plank	Shell Petroleum Corp.	Tulsa, Okla.
James Porter, Jr.	Indian Terr. Illuminating Oil Co.	Bartlesville, Okla.
L. G. Rheinberger	Sinclair Oil & Gas Co.	Tulsa, Okla.
E. H. Schoenfeldt	Prairie Oil & Gas Co.	Independence, Kans.
J. W. Vaiden	Skelly Oil Co.	Tulsa, Okla.

LEGAL COMMITTEE

W. P. McGinnis, chairman	Indian Terr. Illuminating Oil Co.	Bartlesville, Okla.
J. W. Cowles, vice chm.	Shell Petroleum Corp.	Tulsa, Okla.
Karl F. Griffith	Lone Star Gas Co.	Dallas, Tex.
M. D. Kirk	Phillips Petroleum Co.	Bartlesville, Okla.
V. C. Micher	Amerada Petroleum Corp.	Tulsa, Okla.
W. P. Z. German	Skelly Oil Co.	Tulsa, Okla.
Warren T. Spies	Empire Oil & Refining Co.	Bartlesville, Okla.

OUTAGE COMMITTEE

Emby Kaye, chairman	Skelly Oil Co.	Tulsa, Okla.
S. B. Crooks, vice chm.	Empire Oil & Refining Co.	Bartlesville, Okla.
R. A. Boyd	Columbian Gasoline Corp.	Fairbanks, La.
L. E. Frazier	Phillips Petroleum Co.	Bartlesville, Okla.
A. E. Koenig	United Gas Public Service Corp.	Shreveport, La.
A. T. Scherer	Sinclair Oil & Gas Co.	Tulsa, Okla.

PLANT OPERATORS MEETINGS COMMITTEE

Dean Hiatt, chm. for Texas	Texas Pacific Coal & Oil Co.	Thurber, Tex.
C. L. Brown, chm. for Okla.	Sinclair Oil & Gas Co.	Tulsa, Okla.
R. A. Boyd	Columbian Gasoline Corp.	Fairbanks, La.
Emby Kaye	Skelly Oil Co.	Tulsa, Okla.
W. G. Palmer	The Henderson Co.	Sanford, Tex.
F. L. Rhoades	United Gas Public Service Corp.	Shreveport, La.
F. E. Shrycock	Shell Petroleum Corp.	Tulsa, Okla.
Ed L. Stauffacher	Empire Oil & Refining Co.	Bartlesville, Okla.

PUBLICITY COMMITTEE

Emby Kaye, chairman	Skelly Oil Co.	Tulsa, Okla.
G. M. Davidson, vice chm.	Empire Oil & Refining Co.	Bartlesville, Okla.
R. C. Alden	Phillips Petroleum Co.	Bartlesville, Okla.
R. E. Baker	Shell Petroleum Corp.	Tulsa, Okla.
W. W. Robinson, Jr.	The Texas Company	Long Beach, Calif.

RESEARCH AND EDUCATIONAL COMMITTEE

E. L. Peck, chairman	Empire Oil & Refining Co.	Bartlesville, Okla.
E. R. Lederer, vice chm.	Texas Pacific Coal & Oil Co.	Fort Worth, Tex.
W. W. Baker	Sinclair Oil & Gas Co.	Tulsa, Okla.
R. E. Baker	Shell Petroleum Corp.	Tulsa, Okla.
D. E. Buchanan	Hanlon-Buchanan, Inc.	Tulsa, Okla.
George P. Bunn	Phillips Petroleum Co.	Bartlesville, Okla.
G. M. Campbell	United Gas Public Service Corp.	Houston, Tex.
George E. Edgett	Carter Oil Co.	Tulsa, Okla.
Emby Kaye	Skelly Oil Co.	Tulsa, Okla.
W. A. Melton	Deep Rock Oil Corp.	Tulsa, Okla.
E. B. Filley	The Texas Company	Tulsa, Okla.
W. K. Warren	Warren Petroleum Co.	Tulsa, Okla.

SALESMANAGERS COMMITTEE

A. T. Scherer, chairman	Sinclair Oil & Gas Co.	Tulsa, Okla.
G. M. Campbell, vice chm.	United Gas Public Service Corp.	Houston, Tex.
W. H. Andres	Columbia Gasoline Corp.	Monroe, La.
S. B. Crooks	Empire Oil & Refining Co.	Bartlesville, Okla.
M. E. Foster	Phillips Petroleum Co.	Bartlesville, Okla.
A. F. Garrett	Lone Star Gasoline Co.	Dallas, Tex.
F. C. Hall	The Henderson Co.	Tulsa, Okla.
O. B. Lloyd	Continental Oil Co.	Ponca City, Okla.
J. A. LaFortune	Warren Petroleum Co.	Tulsa, Okla.
J. F. Nagle	Skelly Oil Co.	Tulsa, Okla.
A. F. Wood	Hanlon-Buchanan, Inc.	Tulsa, Okla.
George Van Ness Yates	Indian Terr. Illuminating Oil Co.	Bartlesville, Okla.

SPECIFICATIONS COMMITTEE

R. E. Baker, chairman	Shell Petroleum Corp.	Tulsa, Okla.
George P. Bunn, vice chm.	Phillips Petroleum Co.	Bartlesville, Okla.
Paul C. Coffin	Lone Star Gas Co.	Ranger, Tex.
W. N. Corbet	Eagle-Picher Min. & Smelt. Co.	Henryetta, Okla.
S. B. Crooks	Empire Oil & Refining Co.	Bartlesville, Okla.
H. E. Felt	Warren Petroleum Co.	Tulsa, Okla.
H. W. Harts	Amerada Petroleum Corp.	Tulsa, Okla.
John L. Hill	Continental Oil Co.	Ponca City, Okla.
Emby Kaye	Skelly Oil Co.	Tulsa, Okla.
C. C. Kelley	The Texas Company	Tulsa, Okla.
F. M. Neely	Crosbie & Moran, Inc.	Tulsa, Okla.
F. L. Rhoades	United Gas Public Service Corp.	Shreveport, La.
A. T. Scherer	Sinclair Oil & Gas Co.	Tulsa, Okla.
I. S. Salnikov	Carter Oil Co.	Tulsa, Okla.
A. F. Wood	Hanlon-Buchanan; Inc.	Tulsa, Okla.
E. W. Zublin	Texas Pacific Coal & Oil Co.	Fort Worth, Tex.

STANDARDIZATION COMMITTEE

George P. Bunn, chairman	Phillips Petroleum Co.	Bartlesville, Okla.
Emby Kaye	Skelly Oil Co.	Tulsa, Okla.
E. L. Peck	Empire Oil & Refining Co.	Bartlesville, Okla.
S. S. Smith	Shell Petroleum Corp.	Tulsa, Okla.
George A. Shaner	Carter Oil Co.	Tulsa, Okla.

STANDARD FORMS COMMITTEE

A. H. Menuet	Skelly Oil Co.	Tulsa, Okla.
J. W. Cowles	Shell Petroleum Corp.	Tulsa, Okla.
G. L. Pitcher	The Texas Company	Tulsa, Okla.
L. H. Sexton	Phillips Petroleum Co.	Bartlesville, Okla.
B. J. Yaseck	Empire Oil & Refining Co.	Bartlesville, Okla.

TECHNICAL COMMITTEE

R. C. Alden, chairman	Phillips Petroleum Co.	Bartlesville, Okla.
D. B. Dow, vice chairman	Indian Terr. Illuminating Oil Co.	Bartlesville, Okla.
R. E. Baker	Shell Petroleum Corp.	Tulsa, Okla.
C. C. Chaffee	Continental Oil Co.	Ponca City, Okla.
R. E. Cornwell	Carbide & Carbon Chemicals Corp.	Tulsa, Okla.
G. M. Davidson	Empire Oil & Refining Co.	Bartlesville, Okla.
W. F. Fulton	United Gas Public Service Corp.	Houston, Tex.
J. L. Gallagher	Sinclair Oil & Gas Co.	Seminole, Okla.
J. R. Jarvis	Lone Star Gas Co.	Dallas, Tex.
C. C. Kelley	The Texas Company	Tulsa, Okla.
Emby Kaye	Skelly Oil Co.	Tulsa, Okla.
W. A. Melton	Deep Rock Oil Corp.	Tulsa, Okla.
W. G. Palmer	The Henderson Co.	Sanford, Tex.
I. S. Salnikov	Carter Oil Co.	Tulsa, Okla.
E. W. Zublin	Texas Pacific Coal & Oil Co.	Fort Worth, Tex.

TRAFFIC COMMITTEE

J. R. Freeman, chairman	Carter Oil Co.	Tulsa, Okla.
C. R. Musgrave, vice chm.	Phillips Petroleum Co.	Bartlesville, Okla.
W. H. Andres	Columbian Gasoline Corp.	Monroe, La.
Harry A. Busten	Warren Petroleum Co.	Tulsa, Okla.
S. B. Crooks	Empire Oil & Refining Co.	Bartlesville, Okla.
F. C. Hall	The Henderson Co.	Tulsa, Okla.
R. N. Mason	United Gas Public Service Corp.	Houston, Tex.
F. G. Robinson	Lone Star Gas Co.	Dallas, Tex.
Ed Starr	Texas Pacific Coal & Oil Co.	Thurber, Tex.
A. F. Winn	Skelly Oil Co.	Tulsa, Okla.

GASOLINE MOVEMENT SHOWS IMPROVEMENT

(Continued from Page 12)

their stations is a "cheap substitute" for regular or premium gasolines and in these cases the third grade sales are relatively small.

Refinery Significance

The significance of this retail situation in the refined tank car market of the Mid-Continent is reflected in spot sales. As previously indicated the introduction of the third grade has strengthened the position of several of the larger companies which have been able to increase their sales to the point that they do not have to offer gasoline on the spot market.

This increased busines has been taken away from the price cutters and other large distributors who have not seen fit to offer the third grade. The result has been that the refiner depending on the spot market has seen his market constantly decrease in size. Jobbers operating cut price stations, who early in the year were buying as high as 100 cars a month from Mid-Continent refiners have reduced their purchases in many instances to a few cars.

This situation as well as the lower crude oil prices unquestionably has been a factor in the recent price declines in the gasoline tank car market throughout the Mid-Continent. With the increase in gasoline output of East Texas refineries, it has gained in importance. These refiners for the most part are entirely dependent on the spot market. They have little storage and are forced to make sales almost from day to day. With restricted domestic outlet they have lowered prices which, refiners in other areas have been forced to meet.

Export Buying

Although no official announcement has been made it is understood that some of the output of at least two East Texas refineries has been shipped south for export movement. Orders for two cargoes recently have been placed by independent European buyers and the business is said to have been placed with East Texas and one or two independent Gulf Coast refiners.

The price paid is reported at 3.75 cents per gallon on board ship for 375 endpoint material at the Texas Gulf. This price is in line with the general quotations at the Gulf which were again reduced during the past week. At this price, North Texas, Oklahoma and Kansas refiners cannot participate in the business. Figuring 2 cents to cover the freight rate of 1.45 cents from Oklahoma, plus handling charge and profit would net Oklahoma refiners 1.75 cents. With .45 cent advantage in freight rates, the business is more attractive to East Texas refiners.

Due to the extremely low prices now posted at coastal points it is predicted that the export movement from refineries in this country will improve over the balance of the summer. It is claimed that due to financial difficulties, Russia has not been in a position to take some European business recently available and these orders will be placed in this country. The Rumanian situation is also said to be improving.

From the Mid-Continent angle, this is important for the reason that unless there is relief from some source, it appears that the price slump will continue until many refiners are showing large losses and are forced to shut down. Although it is unlikely that Oklahoma and Kansas refiners will be able to participate in any export orders due to the low prices, refiners would like to see the business develop as it would tend to minimize the importance of the inland Texas refiners in the domestic market assuming of course that East Texas and other refiners in that area would participate in the orders.

Gasoline and Naphtha

U. S. Motor gasoline dropped to 2¼ cents in Oklahoma the first of the week with resale material sold one-eighth cent lower. Sellers reported competition from East Texas refiners on a basis of 2 cents Group 3. Some of this East Texas gasoline offered at competitive prices was considerably above U. S. Motor specifications in distillation range with better than the average antiknock rating.

Several refiners are willing to cut a 400 endpoint grade if the buyer will give one-eighth to one-fourth cent above the low of the U. S. Motor quotation. The general price range on this grade was 2½ to 3 cents. The 375 endpoint was nominally quoted at a low of 2¾ cents and 350 and 360 endpoints 2⅞ cents.

So far as Oklahoma is concerned strictly 450 endpoint naphtha with a gravity from 48 to 54 is very scarce and is not available under 2⅝ cents.

Kerosene

East Texas kerosene is aiding in bringing about a decline in Oklahoma prices. At least three East Texas refiners are offering a quality kerosene at 2 cents basis Group 3. This kerosene meets the 41-43 water white specification with a low endpoint. They are also offering the higher gravities at low prices. Most of the Oklahoma refiners are continuing to quote 2⅛ to 2½ cents for the 41-43 water white grade.

Fuels

The demand for the residuum fuels appears to have improved in Oklahoma although prices continue to reflect an excess supply over demand. Some of the railroads have increased their orders both in spot purchases and on contracts. This is due to an expected increase in rail movement due to the harvest season.

One buyer says that the extremely low prices have attracted some industrial buying, the purchasers storing the fuel in expectation of higher prices later. Outside of these reports there was no apparent change in the fuel oil market.

The buyer of furnace oil distillates or tractor distillates is having a variety of products offered him. An East Texas 40 gravity distillate with better than the usual prime white color and an endpoint around 550 is offered at 1½ cents basis Group 3. This product has a flash of 140. Other grades of distillates of low cold test have been sold for as low as 1¼ cents.

At the same time a low cold test, low flash gas oil suitable for furnace oil is in demand at 1⅜ and 1½ cents. The going market for U.G.I. and high cold test gas oils is three-fourths to 1 cent. The demand is fair.

Natural Gasoline

Buying in natural gasoline continues steady and no substantial quantities of excess material in any grade has been reported. Sellers feel that the market could easily advance to 2 cents if the refinery market would show any improvement. If export business develops this might happen regardless of the refined market situation. Grade A is scarce at 1⅞ to 2 cents, Grade AA at 1⅝ cents and the remaining grades 1½ cents.

WILBUR'S STATEMENT ON IMPORT CURTAILMENT

WASHINGTON, D. C., June 15.—A report that the Dutch-Shell, Gulf and Standard of New Jersey and Indiana companies are considering abandoning the program for voluntary curtailment of imports at the suggestion of Secretaries Wilbur and Lamont has gained currency. Today Secretary Wilbur stated that he knew of no foundation for such report.

PHILLIPS' KANSAS CHANGE

The Phillips Petroleum Co. has moved its production department office from Eldorado, Kans., to Wichita, Kans., effective June 20. The Eldorado office has been maintained for 10 years. Several years ago the land and lease departments were moved from Eldorado and during the past year the department was merged with the production, land and lease department of the Independent Oil & Gas Co., following the merger of the Phillips Petroleum Co. and the Independent Oil & Gas Co. The Phillips Petroleum Co.'s geological department is located in Hutchinson, Kans. H. L. McQuiston is production superintendent in Kansas, succeeding Robert Jolly, recently transferred to Oklahoma.

PAN AMERICAN OIL SELLS SHARE IN IRAQ

(Continued from Page 112)

business of the company and had held no discussions regarding reorganization.

Mr. McDuffie expressed the opinion that any reasonable upturn in crude oil prices in California was justifiable and could be expected in a short time.

"With a moderate advance in gasoline prices there," he said, "the company ought to begin to make sufficient money to carry on its operations without any immediate requirements for additional capital."

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Oct. 22	21.88	Feb. 18	28.53
Oct. 29	32.80	Feb. 25	29.33
Nov. 5	31.77	Mar. 4	27.67
Nov. 12	30.18	Mar. 11	26.53
Nov. 19	31.54	Mar. 18	26.78
Nov. 26	30.86	Mar. 25	26.35
Dec. 3	30.53	Apr. 1	24.80
Dec. 10	28.57	Apr. 8	25.52
Dec. 17	25.42	Apr. 15	24.72
Dec. 24	25.68	Apr. 22	22.73
Dec. 31	26.15	Apr. 29	20.54
Jan. 7	27.56	May 6	20.74
Jan. 14	27.31	May 13	20.38
Jan. 21	27.55	May 20	19.25
Jan. 28	27.26	May 27	18.35
Feb. 4	27.26	June 3	18.00
Feb. 11	28.76	June 10	19.62

TO BUILD REFINERY

FORT WORTH, Tex., June 16.—The Central Refining Co. has announced plans for the construction of a 7,500-bbl. skimming plant at Overton, in the East Texas Field. The refinery will secure its crude oil supply from John Hooser and associates. The contract is said to provide that the crude oil will not be paid for until it has been refined and the payment will depend on the amount received for the refined products.

OIL MAN'S CALENDAR

JUNE

15-18—Madison, Wis., fourth national oil and gas power meeting, American Society of Mechanical Engineers.

15-19—White Sulphur Springs, W. Va., summer meeting, Society of Automotive Engineers.

18-19—Charleston, W. Va., West Virginia Oil Marketers Association, Daniel Boone Hotel.

22-26—Chicago, annual meeting, American Society for Testing Materials.

29-30—Chicago, National Association of Taxicab Owners.

AUGUST

10—Denver, Colo., Oil States Advisory Committee.

SEPTEMBER

1-3—Cleveland, Ohio, twentieth national aeronautic meeting, Society of Automotive Engineers.

16-18—Atlantic City, N. J., annual meeting, National Petroleum Association, Hotel Traymore.

28-29—Atlantic City, N. J., National Association of Motor Bus Operators, Hotel Ambassador.

OCTOBER

2-3—Houston, Tex., Petroleum Division, American Institute of Mining and Metallurgical Engineers.

12-16—Chicago, National Safety Council.

14-16—Pittsburgh, Pa., Society of Industrial Engineers.

NOVEMBER

10-12—Chicago, twelfth annual meeting, American Petroleum Institute, Stevens Hotel.

16-21—Pittsburgh, Pa., third International Conference on Bituminous Coal, Carnegie Institute.

DECEMBER

7-12—Atlantic City, N. J., Trade Show, Motor and Equipment—National Standard Parts Association.

28-31—Tulsa, Geological Society of America, Mayo Hotel.

Standard Form of Contract for Unit Operations of Pools

The unitization committee of the General Mid-Continent Oil & Gas Association has issued as a standard form the revised unit operating contract known as the "committee form" as adopted by the unitization committee. Accompanying the 2,000 sample copies of this unit operating contract were also sample copies of the exhibit to be attached covering the accounting procedure or the unit and joint lease schedule. The new printed forms are officially designated "Mid-Continent Committee Form No. 1" for purposes of reference. Additional copies of the forms can be obtained from the Olds Press of Tulsa, which has them in stock.

The revised contract and exhibit are issued as a supplement to the Handbook on the Unitization of Oil Pools published by the association a year ago and containing suggested forms of contracts. The new forms represent careful revision by lawyers, land men and accountants who have had a great deal of experience in unitizing acreage and conducting unit operations and they therefore reflect the progress made in the art and science of unitization during the past year.

Issuance of this supplemental material to the handbook in printed form ready for use will enable land department heads, executives and lawyers to negotiate with other operators for the unitization of acreage by simple reference to "Mid-Continent Committee Form No. 1" and thus avoid misunderstandings, quibbling over terms, and the delays incident to formulating a new contract in each instance.

There were 5,000 copies of the handbook printed and nearly all of them have been distributed but the association has a few remaining on hand which will be available to anyone interested upon request, together with copies of the new contract and exhibit forms, so long as they last. These have been sent out to the membership of the association.

In the letter transmitting the new forms to members of the industry, the following comment is made:

"Recent price cuts have been made clearer than ever the compelling necessity for reduction of expenses in the oil producing industry. Unit operation is admitted to be the most economical method of developing and operating oil properties. Too much undeveloped acreage has been and is being carried. Rentals and bonuses consume far too great a share of the scanty gross income. Is not now the logical time to release acreage of doubtful value and to institute a program of unitization of the acreage which is to be retained? This industry should protect itself against another wild scramble such as those taking place in Oklahoma City and East Texas pools. Unitization offers the only insurance against such catastrophes."

In the association's monthly bulletin announcing the issuance of the standard form it is said that "It is gratifying to note that some of the large royalty pools and companies are now turning to unitization as a constructive development within the industry. Two years ago the royalty owners were inclined to oppose unitization, but this office has recently received repeated assurances that many prominent royalty interests are now eager to co-operate in the complete unitization of structures to be hereafter developed. Also, the recommendation has been made that unitization be tried in the East Texas area. So it may be safely said that sentiment for unitization is growing rapidly. With the price of oil badly depressed and large reserves in sight, it would seem that now is the logical time for executives to require unitization wherever possible."

SUN BUILDING STORAGE

DALLAS, Tex., June 16.—The Sun Oil Co. is completing the construction of two 20,000-bbl. storage tanks on the Grissom farm on the John F. Brown Survey in Rusk County, Texas.

High Spots in Field News

OKLAHOMA

Mid-Kansas Oil & Gas Co.'s No. 6 Preston-Culp, NW cor. NE, Section 6-5-9w, on the west side of the Cement Pool, in Caddo County, was drilling at 8,064 feet. It is not only the deepest drilling test in the State but also one of the few tests that have ever been drilled in Oklahoma below 8,000 feet. It is believed to be still in the Pennsylvanian series.

Magnolia Petroleum Co.'s No. 2 Estes, SE cor. SW NE, Section 10-5-9w, on the east side of the Cement Pool, was drilling at 5,187 feet with nothing showing. It was drilling below the regular producing horizons in the area.

Magnolia Petroleum Co.'s No. 2 Young, SE cor. SW NW, Section 22-21-2w, made 787 bbls. of oil the first 24 hours from the Wilcox sand at 5,215-21 feet. It will be pinched to the allowable outlet under the proration order. Same company's No. 2 Sumner, SE cor. NW, Section 4-20-1w, was also completed making 17,000,000 feet of gas a day from sand at 3,303-14 feet.

In Cotton County in the southern part of the State, Shasta Oil Co.'s No. 5 Moore, SW cor. NE SW, Section 2-2s-10w, made 15 bbls. of oil in 24 hours from sand at 2,195-97 feet.

Empire Oil & Refining Co.'s No. 3 Brown, NW cor. NE SE, Section 3-8-5, in the Carr City Pool, swabbed 595 bbls. of oil from the Wilcox sand at a total depth of 4,205 feet. The well was cleaning out.

Champlin Refining Co. completed a pair of wells in Garfield County, No. 1 Kindt, NW cor. NE NE, Section 36-23-4w, was completed for 4,000,000 feet of gas a day after being plugged back from the Wilcox sand at a total depth of 5,532 feet to 5,175 feet. The other well, No. 1 Wambert, NE cor. NW, Section 36-23-4w, has been completed for 100 bbls. of oil a day at 5,218 feet after being plugged back from a total depth of 5,238 feet.

The Continental Oil Co.'s No. 2 Sudik, NE cor. NW NE, Section 6-10-2w, Cleveland County, in the south end of the Oklahoma City Field, is being abandoned at a total depth of 6,745 feet. The well is an old producer. On a production test May 16, it swabbed 460 bbls. of oil in 4 hours cutting 10 per cent from the Wilcox sand at 6,555-6,745 feet.

The wildcat test near Tecumseh in Pottawatomie County, of the Amerada Petroleum Corp. and Droppleman Drilling Co.'s No. 1 Jones, SE cor. NW, Section 21-8-3, is expected to be abandoned at a total depth of 4,878 feet. The test found only a small showing of oil and considerable water.

Another test west of Holdenville in the gas field along the Seminole and Hughes County line was nearing the gas sand. Empire Oil & Refining Co.'s No. 1 Harris, C SW, Section 17-7-8, was coring the sand at 3,230-47 feet, where it was showing gas. The sand will be tested before drilling deeper.

KANSAS

Oil shipped from the Ritz-Canton Field in McPherson County during the month of May totaled 195,128 bbls. of oil. The allowed production was 196,782 bbls. for the same time, according to Umpire Lloyd Pickrell. This amount is only about twice the oil the field could produce in two days. At the end of May the field had 23 Viola lime producing wells and 40 chat producers, both having a potential of 94,250 bbls. a day. Since that time several other wells have been completed, increasing the daily potential of the field to over 100,000 bbls. a day. The production is limited to approximately 6,300 bbls. a day, which is the pipe line outlet.

In the Padget Field in southeastern Sumner County two new operations were announced. J. F. Tighe and others' No. 1 Thiosson, NW cor. SE Section 22-34-2, and Fisher and others' No. 1 Warner, NW cor. SE Section 23-34-2, were preparing to start operations.

Tom Palmer and others' No. 1 Stoddenberg, C SW Section 22-16-10w, a wildcat in Ellsworth County, was drilling below 2,600 feet. The test is located on the Ellsworth Arch and will extend production if a commercial well is found.

Derby Oil Co.'s No. 6 Eastborough, NE cor. SW NE Section 19-27-2, Sedgwick County, found the top of the chat at approximately 2,950 feet and was showing oil. It will be the forty-fourth well completed in the field.

In the Lost Springs Pool, in Marion County, Youker and others' No. 3 Riffel, NW cor. SW Section 11-17-4, filled up 600 feet with oil in 12 hours and was testing. The oil was found in the chat at 2,311-71 feet.

Olsen and Shell Petroleum Corp.'s No. 2 Johnson, SE cor. SW NE Section 26-19-2w, made 375 bbls. of oil in two and one-half hours from the Viola lime at 3,400-14 feet.

Mid-Kansas Oil & Gas Co.'s No. 1 Whitright, SW cor. Section 30-19-1w, is still fishing for tools. The rig caught fire and burned down from what was estimated to be 12,000,000 feet of gas a day from the chat at 2,925-31 feet. The rig was rebuilt and the crew has been fishing for several weeks.

Deeper drilling improved the production from an extension well in the Ritz-Canton area. The Vernon Oil & Gas Co. and Shell Petroleum Corp.'s No. 1 Drum, NE cor. Section 35-19-2w, was drilled to a total depth of 2,970 feet, where it flowed 440 bbls. of oil in 24 hours. Itwas also showing some water.

GULF COAST

HOUSTON, Tex., June 16.—T. B. Slick estate's No. 1 McFaddin, J. Vairan Survey, southern Victoria County, Texas, wildcat, has been completed estimated good for 40,000,000 feet of dry gas, 1,500 pounds pressure, from a sand at a total depth of 3,512 feet. Twenty-one feet of screen was set. The well is 3½ miles north of two wildcat gassers in the Maria Traviesa Survey, the only other production in the county.

HENRY McGRAW ILL

Henry McGraw, vice president of the Gypsy Oil Co., and the Gulf Pipe Line Co. of Oklahoma, lies dangerously ill in Johns Hopkins Hospital in Baltimore, Md. Mr. McGraw underwent an operation following which pneumonia developed, and late Tuesday his condition was regarded as very serious.

CURTAILMENT RETARDS INCREASE IN PRICES

(Continued from Page 24)

curtailment. A determined effort is being made to bring this surplus production under curtailment and the outlook is favorable for success.

The circulation of referendum petitions to prevent enforcement of the Sharkey conservation bill until submitted to a popular vote of the people at the next general election is another factor which has retarded the anticipated readjustment in crude and refined oil prices. If the sponsors of this referendum secure the necessary 60,000 valid signatures, the Sharkey bill, which contemplates compulsory reduction of production to actual requirements, will not be operative until voted upon at the general election in November of next year. It has been proposed to have Governor Rolph call a special election in the event that these petitions are validated—the cost to be borne by both producers and refiners. This bridge is not being crossed, however, until the professional agency handling these petitions has filed its report. It is the present belief that crude and refined oil prices will be adjusted on the Pacific Coast within the next week or ten days if developments warrant and a satisfactory schedule maintained as long as consistent.

SUMMARY OF STATEMENTS MADE JUNE 10, 1931, RELATING TO BUSINESS OF VARIOUS PIPE LINES FOR MONTH ENDING MAY 31, 1931

	Gross stocks	Runs from wells	Other receipts	Regular deliveries	Other deliveries
Nat. Transit	753,134.11	143,585.75	940,707.59	494,823.01	632,428.63
S. W. Pa. P. L.	512,838.77	74,718.32	659,184.17	442,582.39	317,490.67
Eureka P. L.	1,817,026.88	293,679.22	429,563.23	328,121.10	342,250.39
Buckeye P. L. (Macksburg)	370,904.34	292,687.45	109,172.57	231,067.12	318,424.77
Buckeye P. L. (Lima, etc.)	3,641,367.87	80,369.42	2,634,745.91	1,588,533.48	1,221,024.70
Buckeye P. L. (Cleveland)	58,962.66	13,408.60	244,937.60	1,709.67	242,497.26
Indiana P. L.	518,335.78	3,425.44	1,596,219.87	1,121,163.38	562,412.84
Cumberland P. L.	644,027.51	158,976.48	304.59	109,505.58	69,882.98
Southern P. L.	317,548.61	.....	252,499.15	88,868.78	158,460.36
Bradford Trans.	210,020.88	324,013.67	.....	304,084.82	.....
N. Y. Transit	126,136.54	28,296.26	186,937.44	191,931.04	4,433.12
Northern P. L.	339,978.15	.....	610,513.52	177,918.97	385,273.50
Tide Water Pipe	863,211.61	24,946.95	.....	454,064.43	.....
Tuscarora Dev.	13,462.07	.....	.....	385,769.63	.....
Total May 31	10,186,955.78	1,438,107.56	7,655,785.64	5,920,143.40	4,254,579.22
Total April 30	10,436,336.42	1,449,120.82	7,112,197.48	5,506,021.27	3,642,819.75
Difference	249,380.64	11,013.26	543,588.16	414,122.13	611,759.47

National Airoil Burners

Oil Burners and Gas Burners for every industrial purpose: Steam atomizing Burners, Motor-driven Rotary Burners, Low Pressure Air Burners, Gas Burners, Combination Gas and Oil Burners, Fuel Oil Pump Sets, Fuel Oil Strainers. Engineering advice, design and supervision of complete oil or gas burning systems for every industrial purpose.

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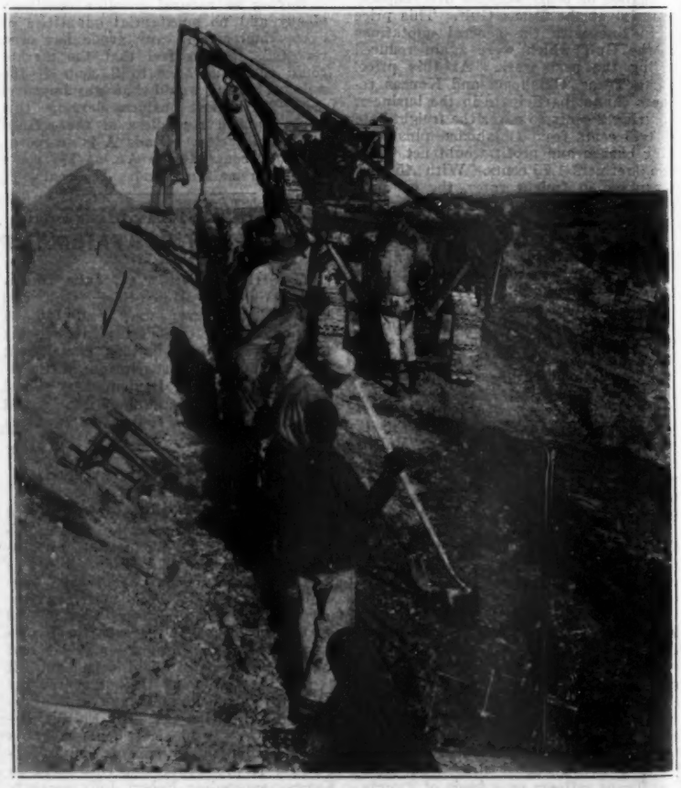
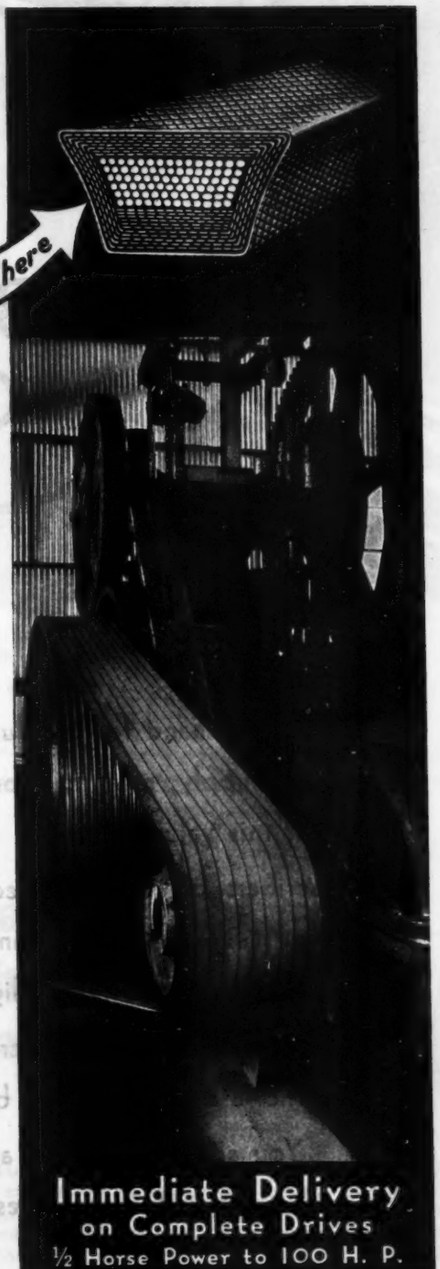


A stretch of good country along a new oil pipe line.

There's What Saves Transmission Dollars.... *that*

Concave Side

Right There



Watch ANY V-Belt in action and here is what you will see—

The top of the belt, as it bends around the pulley, is under tension and grows NARROWER. The bottom is under compression and grows WIDER, the sides of the belt BULGE OUT.

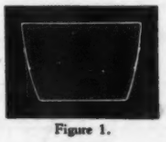


Figure 1.

A straight-sided V-Belt is therefore forced to assume, in the sheave groove, the shape shown by dotted lines in figure 1. TWO losses result:

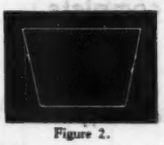


Figure 2.

(1) The bulging causes UNEVEN wear on the sides of the belt–SHORTER LIFE! (2) The full side of the belt does not uniformly grip the pulley—lower transmission efficiency.

Contrast with this the belt built with the CONCAVE side (U. S. Patent 1,400,539)—the Gates Vulco Rope.

As this belt bends, the concave side becomes straight (Fig. 2). It EXACTLY FITS the sheave groove. Two distinct SAVINGS. (1) Wear is evenly distributed over the whole side of the belt—LONGER LIFE! (2) Uniform side-width grip on the pulley—FULL DELIVERY OF POWER!

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The World's Largest Manufacturer of V-Belts

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TITLE OR OCCUPATION_____ COMPANY_____

STREET ADDRESS_____ CITY_____ STATE_____

STANDARDIZED KNOCK TEST SHOWN AS NEEDED

(Continued from Page 48)

The identification marks for the gasolines treated are noted below:

Sample mark	Crude source	Kind of gasoline
VG-1	Venezuela	Straightrun
VG-2	Venezuela	Cr. and straightrun
VG-3	Venezuela	50-50 blend of VG-1 and VG-4
VG-4	Venezuela	Cracked
W-1	Winkler	Straightrun
W-2	Winkler	Cracked
W-3	Winkler	50-50 blend of W-1 and W-2
P-1	Pennsylvania	Straightrun
P-2	Pennsylvania	Cracked
P-3	Pennsylvania	50-50 blend of P-1 and P-2
MC-1	Mid-Continent	Straightrun
MC-2	Mid-Continent	Cracked
MC-3	Mid-Continent	50-50 blend from MC-1 and MC-2
H-1	Healdton	Straightrun
H-2	Healdton	Cracked
H-3	Healdton	50-50 blend of H-1 and H-2
VA-3*	Venezuela	Straightrun
VA-4*	Venezuela	Cracked

*These samples from different refineries than samples marked VG.

The inspections of each of the gasolines tested are given in Table 1.

Table 2 includes information regarding the five engines in which the gasolines were tested. The technique and conditions of operation are also noted. The C.F.R. engine used by The Texas Company depended on throttle variation for control. That is, for each gasoline tested the throttle was gradually opened until the operator distinguished a slight "pink" or knock. The vacuum in the intake pipe for this throttle opening was then recorded. This vacuum in centimeters was divided into the manifold vacuum corresponding to the throttle opening at which the base fuel detonates. This quotient minus one was The Texas Company scale value for the gasoline tested and indicates roughly the per cent increase of compression ratio possible with the sample above that corresponding to the reference fuel. This scale is now obsolete, all values now being reported in octane numbers.

The Continental Oil Co. conducted its tests by blending tetraethyl lead fluid with the samples to match the intensity of knock produced by the Ethyl standard reference fuel in a Series 30 engine. Where the samples were better than the Ethyl reference, straightrun Tonkawa gasoline was added to the sample to reduce the quality of the blend to the standard.

The Sinclair Refining Co. employed a four-cylinder fixed compression engine. Their antiknock index was obtained by adding spark settings for A, incipient knock; B, mild knock; C, strong knock; and D, very heavy knock, as obtained by ear when testing standard fuel. This number, usually 60, represents 100 index performance. The unknowns gave values above or below 60 as the case might be. The index for the known was obtained by dividing its type number by type number for the standard. The 100 index performance corresponds to 40 per cent benzene in Sinclair's base Pennsylvania gasoline.

Michigan University used for the test their N.A.C.A. variable compression engine. In this engine the compression ratio is varied from 3.5 to 1 to more than 14 to 1. For each fuel tested the compression ratio was increased until the point designated as first audible knock was reached. This compression ratio divided by the ratio at which normal

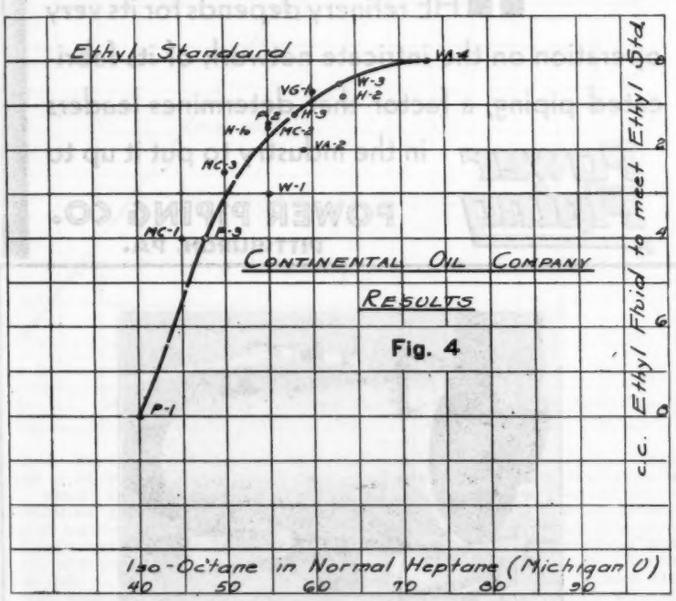

Fig. 4

TABLE 3—ANTIKNOCK RESULTS

	The Texas Company			Univ. of Michigan			Sinclair		K.C.T.L.	Continental
	Scale	Benz. in Pa. gas.	Oct. No.	Benz. in Pa. gas.	Benz. in Hept.	Iso-oct. in Hept.	Scale	Benz. in Pa. gas.	Benz. equiv.	cc. Ethyl
VG-1	19	40	66	36%	56.5	60	97	39	53	.7
VG-2	42	60	80	57	69	80	145	58	94	(*)
VG-3	52	65	85	59.2	71	82.5	150	60	98	(*)
VG-4	..	..	..	66	76.5	90	157	63	113	(*)
W-1	14	33	61	28	52	55	70	28	37	3
W-2	23	45	68	47	62	69	120	48	68	(*)
W-3	20	41	66	39	57	63	100	40	53	.5
P-1	4	11	48	0	40	40	40	16	5	8.0
P-2	12	29	59	27	52	55	60	24	36	1.4
P-3	6	16	52	16	47	47.5	50	20	15	4.0
MC-1	4	11	48	11	45	45	50	(†)	11	4.0
MC-2	10	25	57	26.5	52	55	78	31	42	1.5
MC-3	6	16	52	20	49	50	60	(†)	25	2.5
H-1	9	23	56	24.5	52.5	52.5	57	23	25	1.6
H-2	17	37	64	40	58	63.5	92	37	53	.8
H-3	11	27	58	33	54	58	..	..	40	1.3
VA-3	18	39	65	33.5	55	59	85	34	42	2.0
VA-4	28	50	72	50	64	73	115	46	75	..

*Better than Ethyl Standard. †Sinclair reports results on Mid-Continent samples not accurate.

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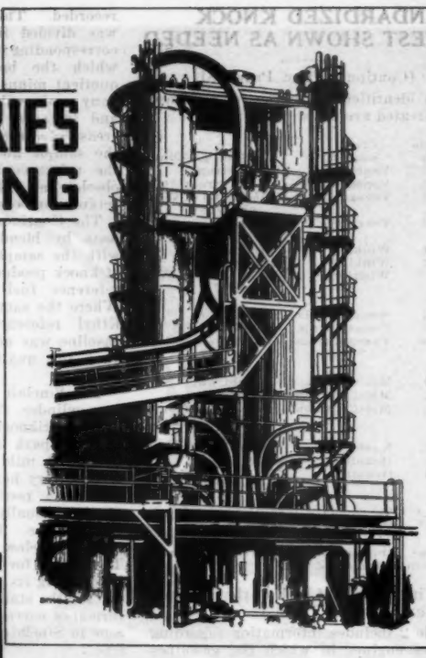

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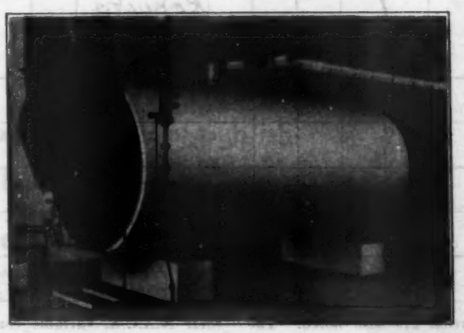

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heptane (which was used as a base fuel) knocks, was reported as the increase in compression ratio. The increase in compression ratio compared to their base Pennsylvania straightrun gasoline was also reported. In addition, Michigan University reported for each gasoline tested the equivalent percentages of benzene and iso-octane in pure normal heptane and benzene in their base straightrun Pennsylvania gasoline corresponding to the incipient knock tendency of the sample tested.

The Kansas City Testing Laboratory controlled its Novo engine by varying the compression ratio until knocking occurred. The increase of this compression ratio as referred to the compression ratio at which their base Mid-Continent straightrun gasoline detonates was reported together with an arbitrary "benzol equivalent" which should not be confused with actual blends of benzene in a base fuel.

The antiknock values reported by the five laboratories on the samples submitted are noted in Table 3.

TABLE 4—COMPARISON OF HIGHEST USEFUL COMPRESSION RATIOS

Sample—	Increase in comp. ratio— Hept. = 1 Michigan	Base Pa. gaso. = 1 Michigan	Base Mid-Con. gaso. = 1 K.C.T.L.
VG-1	1.31	1.13	1.152
VG-2	1.548	1.335	1.269
VG-3	1.681	1.37	1.278
VG-4	1.725	1.49	1.332
W-1	1.263	1.09	1.111
W-2	1.406	1.21	1.21
W-3	1.332	1.15	1.163
P-1	1.158	1	.984
P-2	1.26	1.085	1.111
P-3	1.21	1.045	1.047
MC-1	1.191	1.03	1.034
MC-2	1.265	1.091	1.131
MC-3	1.23	1.06	1.078
H-1	1.245	1.074	1.078
H-2	1.34	1.155	1.165
H-3	1.29	1.111	1.125
VA-2	1.297	1.118	1.131
VA-4	1.44	1.242	1.234

Table 4 includes the results of Michigan University and Kansas City Testing Laboratory in terms of increases in compression ratio as noted in their variable compression engines.

Figures 3, 4, 5, 6 and 7 are plots of the results reported by The Texas Company, the Continental Oil Co., Sinclair Refining Co., the Kansas City Testing Laboratory and the Michigan University respectively. Figure 3 includes the relation between the octane number and the benzene in Pennsylvania gasoline value and The Texas Company old scale for each of the samples. Figure 4 shows the approximate relationship between the Sinclair index and the benzene value in Pennsylvania gasoline for the samples. Figure 5 is a curve showing relationship between the ethyl lead requirements for each of the samples as reported by the Continental Oil Co. plotted against iso-octane in normal heptane values as reported by Michigan University. Figure 6 shows the straight line relationship between the compression ratios and the benzol equivalents of the samples reported by the Kansas City Testing Laboratory. Figure 7 incorporates the results of Michigan University on the samples submitted showing the relationship between their benzene and iso-octane blends with corresponding increase in compression ratios in their engine.

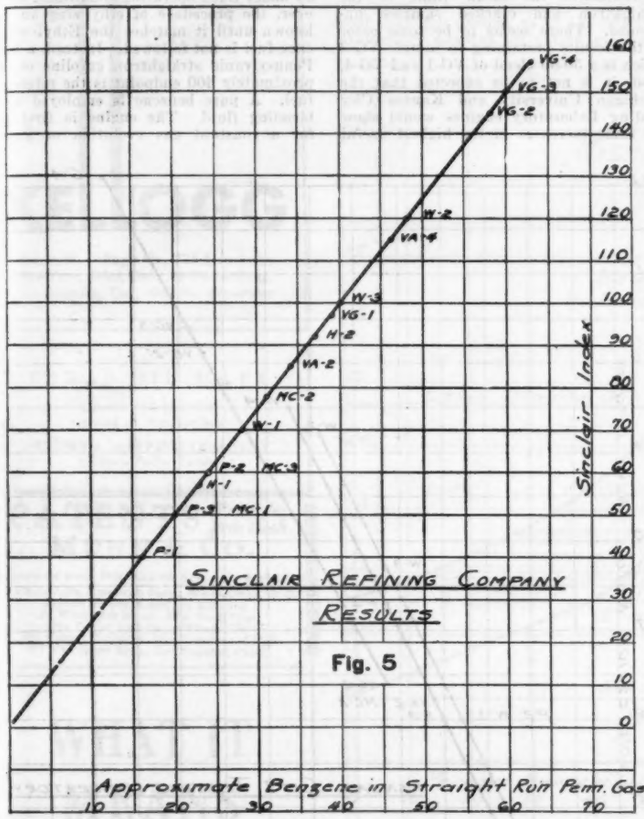

Fig. 5

Comparison of Results

A study of the curves and tables incorporating the results of the five laboratories shows:

1. That even though the engine design and technique employed by The Texas Company, the Sinclair Refining Co., and the Michigan University laboratories differ considerably, the benzene values in Pennsylvania straightrun base fuel reported for the samples by these three laboratories are in excellent agreement. Evidently these three engines have been calibrated using pure benzene in practically the same quality base fuel.

2. That the octane numbers reported by The Texas Company and Michigan University are in fairly good agreement, The Texas Company values averaging 3 octane numbers greater than the Michigan results. This is interesting when one considers that compression ratios were calibrated against octane numbers in the case of the Michigan University results while manifold vacuum was graduated to octane numbers by The Texas Company, and the engines used differed in size, design and conditions of operation.

3. That the "benzol equivalents" reported by the Kansas City Testing Labo-

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ratory are primarily that company's index and should not be confused with actual benzene blends as reported by The Texas Company, Sinclair Refining Co. and Michigan University. Figure 6 shows a straight line relationship between the "benzol equivalents" and compression ratios on their Novo engine, 1 per cent benzol equivalent being equal to one-tenth compression ratio.

4. That for estimating values of blends, increases in compression ratios is the best criterion. The striking fact which a study of Table 4 furnishes is that any increase in compression ratio corresponding to a 50-50 blend of VG-1 and VG-4. Also, it is not to be expected that the Michigan University and Kansas City Testing Laboratory engines would show the same increases in the highest useful compression ratios in as much as the Michigan variable compression engine with a bore of 5 inches and a stroke of 7 inches gives an incipient knocking for heptane at a compression ratio of 3.53 and for the base Pennsylvania gasoline at 4.08, while the Novo engine used by Kansas City Testing Laboratory with a bore of 5 inches and a stroke of 6 inches produces a knocking for their base Mid-Continent reference fuel at 3.2 compression ratios.

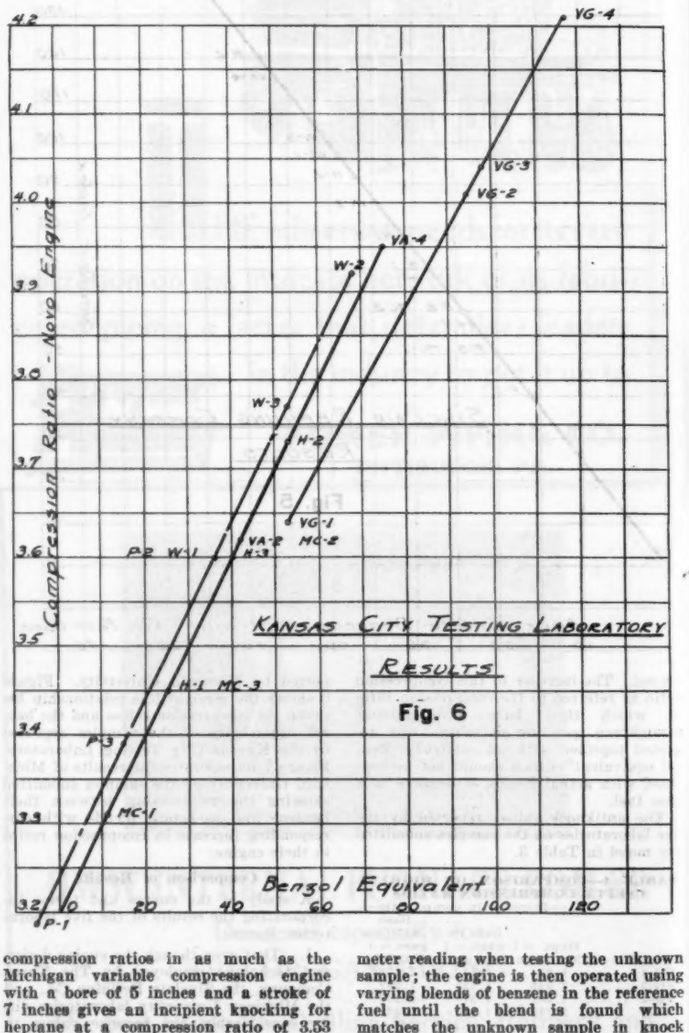


Fig. 6

5. That a study of the Continental values as shown in Figure 5 with the cc. of tetraethyl lead required to meet Ethyl standard charted against Michigan University octane numbers for comparison, clearly indicates that the Ethyl requirements for gasolines having the same octane numbers varies with the nature and source of the samples. Samples MC-1, MC-2 and P-2 reported as 55 octane number by Michigan University require 3, 1.4 and 1.5 cc. respectively to meet Ethyl standard according to the Continental Oil Co.'s results. Even considering the errors in testing on the two engines used for the comparison, it is apparent that ethylization varies for different gasolines and is not a reliable scale for comparing antiknock.

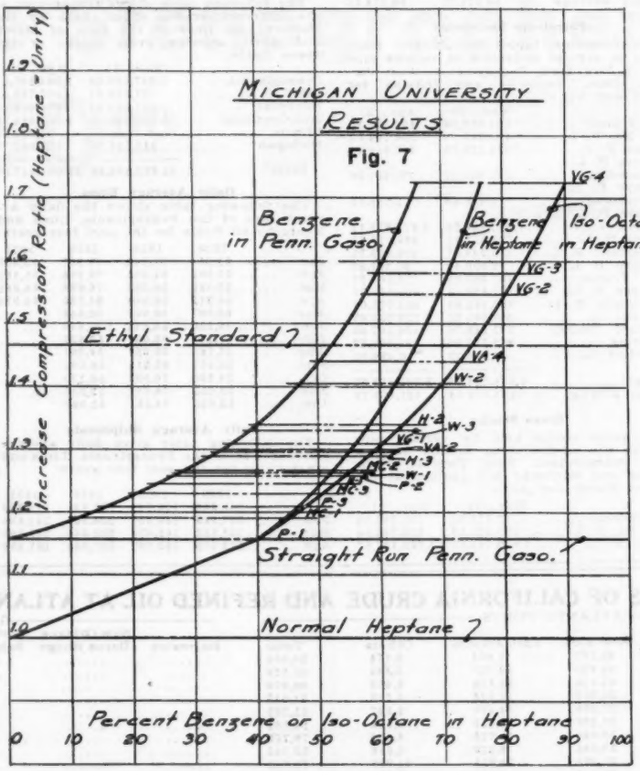
Figure 7 which is a chart of the Michigan University results includes for comparison the present Ethyl standard which is 74 octane number, approximately 66 per cent benzene in normal heptane and 52 per cent benzene in Michigan's base Pennsylvania straightrun gasoline.

The M. W. Kellogg Co. has adopted the following procedure for their routine antiknock tests. A Series 30 engine is used in which matching of fuels is carried on under fixed operating conditions. However, the procedure of ethylizing an unknown until it matches the Ethyl reference fuel is not followed. Instead, a base Pennsylvania straightrun gasoline of approximately 400 endpoint is the reference fuel. A pure benzene is employed as a blending fluid. The engine is first set for a constant gas evolution or knock meter reading when testing the unknown sample; the engine is then operated using varying blends of benzene in the reference fuel until the blend is found which matches the unknown sample in knock intensity. The benzene in this blend is recorded and its corresponding octane number reported. In other words, the blends of benzene in the base Pennsylvania reference fuel have been rigidly calibrated against iso-octane in heptane blends and the relationship charted. This benzol rating converted to a predetermined iso-octane in heptane value is thus determined.

It is believed that no matter what type of engine used, whether controlled by throttle or variable compression, and no matter what the procedure and blending fluids adopted, if the routine method of testing has been carefully checked and calibrated against iso-octane in heptane values, the results will be sufficiently comparable for commercial purposes even though the precision is not as great as for the values reported for tests conducted on similar engines with a stand-

ardized procedure. No doubt in time the standard engine advocated by the co-operative fuels research committee will be generally adopted. But with the present expensive testing equipment installed it would seem logical to utilize this equipment if only the results are in terms which may readily be interpreted. For this reason it seems most time that the co-operative fuels research committee has recommended the calibration of all engines in terms of iso-octane in heptane, which are reproducible hydrocarbons of fixed properties. These hydrocarbons although expensive may readily be used at proper intervals for checking the routine blending and reference fuels used. This eliminates the confusion which has existed until the present as to the varying terminology adopted for rating gasolines with respect to antiknock quality. Varintion in characteristics or volatility of reference fuel or in the quality of blending fluids such as benzol, xylene, toluene and Ethyl fluid would make no difference for routine testing if each grade used were checked and the relationship to iso-octane values plotted for conversion.

There is, however, a need for further investigation of the chemical and physical structure of gasolines as related to their antidetonating properties which will lead to research into methods of producing gasolines containing groups of hydrocarbons having such superior antiknock qualities. It is gratifying to note that work of this nature is now being carried on by many of the refiners and equipment manufacturers.


MICHIGAN UNIVERSITY
RESULTS
Fig. 7
Increase Compression Ratio (Heptane = Unity)
Benzene in Penn. Gaso.
Benzene in Heptane
Iso-Octane in Heptane
Ethyl Standard ?
Straight Run Penn. Gaso.
Normal Heptane ?
Percent Benzene or Iso-Octane in Heptane
0 10 20 30 40 50 60 70 80 90 100

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 28)

RAWLINS COUNTY

J. G. Durham et al's No. 1 Weaver, SE cor. Sec. 3-2-35w ..... Drlg. 3,150 ft.

RICE COUNTY

Solar Oil Co.'s No. 1 Zink, SE NW Sec. 3-19-10w ..... Drlg. 560 ft.
Detrick & Langston's No. 1 Purcell, NW cor. Sec. 33-19-9w ..... Drlg. 1,574 ft.
McFadden and Shell's No. 1 Jennings, SW NE NW Sec. 29-18-6w ..... T. D. 1,450 ft.; plugging back to 1,130 ft.
Cress et al's No. 1 Sharp, SE NE Sec. 13-20-10w ..... Show oil 3,107-15 ft.; Silicious 3,-330-36 ft.; estimated 1,500 bbls.; shut in.
Allison-Fitzwilliams' No. 1 Blake, NE NW Sec. 9-18-10w Spudding.

ROOKS COUNTY

Empire Oil & Ref. Co.'s No. 1 Halsman, SW NE SE Sec. 17-7-20w ..... Drlg. 3,597 ft.

RUSH COUNTY

Dewey & Mitchell's No. 1 Greenawalt, C SW Sec. 17-19-16w ..... Underreaming 3,445 ft.

RUSSELL COUNTY

Hall et al's No. 1 Mills, SE SW SE Sec. 30-14-13w ..... Show oil 2,902-08 ft.; T. D. 3,090 ft.; abnd.
Agate Oil & Gas Co.'s No. 1 Rochfellow, SE cor. Sec. 6-13-12w ..... Shut down 3,374 ft.
Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w .... Show oil 3,090-94 ft.; shut down; T. D. 3,260 ft.

SEDGWICK COUNTY

Buck et al's No. 1 McNananan, NE NW NW, Sec. 2-29-1 Shut down 2,440 ft.

SALINE COUNTY

Stanolind Oil & Gas Co.'s No. 1 Martin Com., NE SE SE Sec. 3-16-3w ..... Show oil 3,298-3,300 ft.; drlg. 3,-467 ft.
Twin Mounds Oil Co.'s No. 1 Weis, C W half NE NW Sec. 20-13-4w ..... Shut down 2,700 ft.

SHERIDAN COUNTY

Flo et al's No. 1 Shoemaker, SE SW SW Sec. 27-7-26w.. Drlg. 2,240 ft.

STAFFORD COUNTY

Rosenthal, Stanolind and Amerada's No. 1 Gray, C NE Sec. 11-24-13w ..... Drlg. 2,420 ft.

STEVENS COUNTY

Argus Prod.'s No. 2 Christopher, C NE Sec. 10-33-39w .. Drlg. 5,420 ft.

SUMNER COUNTY

Spencer et al's No. 1 Porter, NE SW Sec. 12-33-4w .... Spudding.
Otstot et al's No. 2 Marlow, C SE NW SE Sec. 22-33-3w.. Drlg. 3,035 ft.

WASHINGTON COUNTY

Sincox et al's No. 1 Penwell, NW SE NE Sec. 16-3-3 .... Shut down 1,720 ft.

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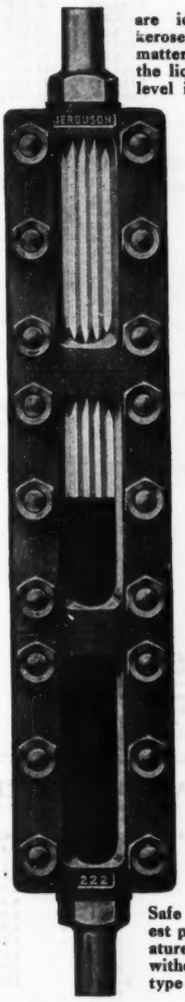

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for April

Runs

Company—	Month bbls.	Dly av. bbls.
Prairie P. L. Co.*	924,060	30,800
Gulf P. L. Co.	1,391,156	46,372
Texas P. L. Co.	641,879	21,396
Empire P. L. Co.	2,312,259	77,075
Magnolia P. L. Co.	1,598,556	53,285
Cosden P. L. Co.	653,096	21,770
Stanolind P. L. Co.	3,340,000	111,333
Oklahoma P. L. Co.	2,159,671	71,989
Other lines*	6,960,000	232,000
Total April	19,980,617	666,020
Total March	19,803,129	638,810
Difference	177,488	27,210

Shipments

Prairie P. L. Co.†	2,324,661	77,489
Gulf P. L. Co.	1,497,417	49,914
Texas P. L. Co.	1,432,493	47,750
Empire P. L. Co.	2,292,164	76,405
Magnolia P. L. Co.	1,801,601	60,053
Cosden P. L. Co.	773,783	25,793
Stanolind P. L. Co.†	3,641,374	121,379
Oklahoma P. L. Co.	2,124,819	70,827
Other lines	7,140,000	238,000
Total April	23,028,312	767,610
Total March	21,762,925	702,030
Difference	1,265,387	65,580

Stocks

Prairie O. & G. Co.*	37,325,000
Gulf P. L. and Gypsy Oil Co.	3,634,325
The Texas Company	2,553,096
Empire P. L. Co.	5,425,148
Mid-Continent Petroleum Co.	3,670,612
Stanolind Crude Oil Pur. Co.*	18,300,000
Magnolia Petroleum Co.	6,167,201
Oklahoma P. L. Co.	2,590,501
Carter Oil Co.	5,765,325
Other lines*	21,129,000
Total April	115,563,208
Total March	117,204,838
Difference	1,641,630

*Estimated. †Prairie and Stanolind shipments include Texas crude oil.

EASTERN PIPE LINE REPORT FOR APRIL

Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for March and April:

	Mar., '31	Apr., '31
Nat. Transit	137,918.13	142,938.57
S W Pa. P. L.	73,145.44	75,998.00
Eureka P. L.	294,872.99	294,234.07
Buckeye P. L. (Macksburg)	111,712.85	100,478.33
Buckeye P. L. (Cleveland)	11,769.49	11,192.85
Buckeye P. L. (Lima, etc.)	79,000.44	78,452.79
Indiana P. L.	3,199.09	2,978.41
Cumberland P. L.	168,106.26	166,128.49
N. Y. Transit	28,252.75	28,562.30
Tide Water P. L.	34,005.40	27,008.85
Pure Oil	212,258.30	196,221.23
Stoll Oil Refining	32,191.99	
Bradford Transit	307,597.03	321,147.01
Total	1,484,271.08	1,447,436.50
Daily average	54,331.32	54,916.55

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for March and April:

	Mar., '31	Apr., '31
Nat. Transit	565,089.04	450,757.25
S W Pa. P. L.	432,661.54	356,704.21
Eureka P. L.	328,329.66	260,884.44
Buckeye P. L. (Macksburg)	365,351.57	330,921.29
Buckeye P. L. (Cleveland)	2,442.82	2,198.31
Buckeye P. L. (Lima, etc.)	1,601,658.90	1,677,678.11
Indiana P. L.	737,337.17	998,276.65
Cumberland P. L.	110,949.07	108,589.29
Southern P. L.	79,896.42	20,351.82
N. Y. Transit	187,287.69	174,908.27
Northern P. L.	177,499.13	165,693.77
Tide Water P. L.	562,962.53	451,375.06
Pure Oil Co.	346,505.62	323,993.49
Bradford Transit	341,249.76	324,367.93
Tuscarora	443,677.56	323,195.49
East Gulf Oil	1,674.23	2,094.61
Total	5,874,764.79	5,743,508.77
Daily average	189,508.54	191,450.29

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing section of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky and Indiana at the close of March and April:

	Mar., '31	Apr., '31
Nat. Transit	745,113.23	790,741.10
S. W. Pa. P. L.	369,462.29	538,721.14
Eureka P. L.	1,319,344.51	1,762,107.52
Buckeye P. L. (Macksburg)	565,767.95	513,877.24
Buckeye P. L. (Cleveland)	49,252.24	46,073.83
Buckeye P. L. (Lima, etc.)	3,619,986.13	3,730,603.33
Indiana P. L.	611,627.34	602,583.09
Cumberland P. L.	452,425.69	459,658.19
Southern P. L.	270,576.36	312,817.70
N. Y. Transit	148,012.40	109,007.83
Northern P. L.	343,330.93	291,059.44
Tide Water P. L.	1,030,157.40	900,197.73
Pure Oil	626,831.52	604,079.70
Tuscarora	13,347.56	13,172.80
Bradford Transit	143,165.00	164,714.48
East Gulf Oil	4,647.01	4,071.47
Total	11,012,162.56	11,044,487.59
Decrease	494,327.43	
Increase		32,325.03

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of March and April, showing gross stocks of the above fields:

	Mar., '31	Apr., '31
Pennsylvania	3,847,629.48	3,966,991.51
Lima	791,559.81	805,719.51
Kentucky	647,373.51	674,039.47
Mid-Continent	5,090,402.32	4,984,054.76
Illinois		16,978.53
Michigan	615,196.24	592,642.76
Total	11,012,162.56	11,044,487.59

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1928	1929	1930	1931
Jan.	52,904	51,749	75,907	52,939
Feb.	57,002	51,523	79,256	55,163
Mar.	57,485	54,252	76,588	54,331
Apr.	56,813	52,444	84,536	54,914
May	62,007	59,902	80,548	
June	58,330	55,833	75,430	
July	57,144	56,087	68,921	
Aug.	57,745	56,087	54,291	
Sept.	53,487	67,315	56,595	
Oct.	58,100	76,093	58,179	
Nov.	59,865	74,831	53,333	
Dec.	52,025	74,561	53,999	

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1928	1929	1930	1931
Jan.	146,405	165,721	217,633	175,389
Feb.	167,368	159,387	224,355	182,494
Mar.	158,883	161,474	228,846	189,508
Apr.	172,935	169,737	241,845	191,450
May	180,559	184,351	248,383	
June	185,034	185,409	234,491	
July	188,476	184,743	207,094	
Aug.	192,852	184,946	205,596	
Sept.	194,133	201,214	193,999	
Oct.	176,000	191,887	167,675	
Nov.	176,888	202,748	146,838	
Dec.	172,572	186,257	142,061	

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three

	1929	1930	1931
Jan.	7,596,564	13,320,045	11,831,681
Feb.	8,738,235	13,991,561	11,596,449
Mar.	9,002,058	13,347,317	11,012,162
Apr.	8,978,172	13,332,961	11,044,487
May	8,902,560	12,952,953	
June	8,921,275	12,396,855	
July	9,211,595	12,268,562	
Aug.	9,440,643	12,047,051	
Sept.	9,442,067	12,812,018	
Oct.	9,441,101	12,427,555	
Nov.	9,865,538	11,851,380	
Dec.	11,359,958	11,751,963	

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, May 1	644,216.76
Runs from wells	394,806.18
Other receipts	32,946.46
Regular deliveries	254,533.77
Other deliveries	165,979.13

The amount of Illinois oil run by the Tide Water Pipe Co. in April was 37,008.85 bbls. Deliveries were 37,008.85 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1931—	Runs	Deliveries
April	431,814.98	323,542.62
1930—		
January	543,337.95	498,292.98
February	548,416.33	414,536.58
March	631,944.49	469,119.53
April	536,074.22	509,804.49
May	606,147.37	606,969.56
June	572,662.57	468,658.81
July	604,529.54	588,454.47
August	594,642.13	575,742.43
September	457,001.13	571,681.62
October	476,443.13	520,688.79
November	432,794.68	556,482.13
December	556,413.78	563,719.56
1931—		
January	468,429.04	469,573.19
February	439,254.54	461,362.56
March	424,683.32	556,663.36

Tide Water Pipe Co., Ltd., also delivered in April 685,176.61 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
May	5,194	5,451	38,161	9,484	2,774	54,064	.....	.....	.....	.....	774	54,838
June	8,500	.....	33,933	20,767	2,333	65,333	.....	.....	.....	.....	2,400	67,733
July	17,356	7,774	45,419	25,819	6,453	98,819	.....	.....	.....	.....	4,448	103,466
August	7,419	3,742	38,961	21,226	5,258	81,612	.....	.....	.....	.....	97	81,710
September	6,200	6,400	25,000	13,499	8,897	61,367	.....	.....	.....	.....	2,433	63,700
October	5,616	8,065	27,253	16,419	4,908	54,161	.....	.....	.....	.....	5,355	59,516
November	5,807	6,333	28,000	17,733	4,000	70,723	.....	.....	.....	.....	4,900	75,623
December	5,516	4,333	30,645	8,678	3,580	52,742	.....	.....	.....	.....	4,548	58,287
January	5,807	6,613	21,968	14,678	11,000	59,742	.....	.....	.....	.....	3,158	62,871
February	4,787	3,713	29,143	4,000	5,750	47,393	.....	.....	.....	.....	3,750	51,143
March	10,032	1,611	21,388	7,324	8,774	49,129	.....	.....	.....	.....	6,355	55,484
April	5,133	.....	19,300	16,500	10,067	50,900	.....	.....	.....	.....	4,000	54,900

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
May	24,129	9,323	174,194	39,291	28,226	275,161	8,194	11,548	2,936	1,323	24,000	299,161
June	51,533	15,667	121,667	45,033	25,033	258,333	4,413	17,267	2,167	1,333	25,200	283,533
July	42,097	9,548	154,968	37,935	26,032	280,580	5,678	9,161	2,097	2,357	19,333	299,900
August	38,033	4,484	145,419	32,355	25,097	247,581	8,419	9,323	3,548	2,000	23,290	270,871
September	34,567	8,533	150,933	34,500	25,567	253,400	6,433	13,234	.....	1,800	23,467	276,867
October	15,839	11,742	146,194	38,355	24,967	240,097	6,065	7,067	2,774	1,548	18,451	258,548
November	39,633	35,900	134,633	36,467	24,667	261,300	2,467	7,366	.....	1,767	11,600	272,900
December	31,419	14,023	133,774	32,839	23,774	236,829	6,290	10,613	2,097	290	19,290	256,129
January	17,613	13,519	154,225	32,903	30,613	248,871	3,032	11,677	2,097	2,097	18,903	267,774
February	31,321	16,929	137,786	31,714	26,857	234,607	4,536	11,571	.....	536	16,643	251,250
March	37,645	18,935	141,160	36,290	31,129	265,161	4,065	3,580	.....	1,968	8,613	273,774
April	35,000	10,533	105,000	29,767	35,533	215,833	2,733	3,400	.....	.....	6,133	221,966

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

1930—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
April:	Month	18,768,743	19,541,210	34,799,763	3,734,263	1,734,400	1,909,553	2,334,210	4,357,000	77,069,891
	Daily average	626,625	651,377	926,659	124,475	57,482	63,652	77,827	141,900	2,568,996
May:	Month	19,044,444	20,587,503	36,219,438	3,978,385	1,659,894	1,907,482	2,646,219	4,414,000	80,376,776
	Daily average	614,337	664,113	845,736	128,335	53,545	61,548	85,749	142,387	2,593,799
June:	Month	18,030,795	19,764,700	35,643,705	3,765,060	1,704,060	1,926,031	2,516,198	4,260,000	77,021,121
	Daily average	600,693	658,490	854,790	125,502	56,802	64,187	83,873	142,000	2,567,373
July:	Month	18,802,024	18,923,514	35,973,521	3,641,409	1,713,680	2,079,769	2,575,854	4,300,000	77,349,811
	Daily average	606,517	581,694	857,856	117,529	55,280	67,089	83,092	138,674	2,495,997
August:	Month	18,770,466	17,162,034	35,069,598	3,491,530	1,700,102	2,151,120	2,198,243	3,417,000	74,955,191
	Daily average	605,499	553,614	808,696	112,630	54,843	69,391	103,011	110,226	2,417,900
September:	Month	17,954,306	16,509,120	33,111,832	3,405,510	1,583,280	2,008,060	2,339,010	3,396,000	71,227,108
	Daily average	598,477	550,304	770,294	113,517	52,776	66,935	107,967	113,200	2,374,570
October:	Month	18,344,053	16,632,533	33,636,553	3,571,913	1,636,553	2,143,885	2,325,550	3,637,000	72,707,039
	Daily average	585,618	536,533	762,147	115,233	52,792	69,125	104,050	117,000	2,346,358
November:	Month	18,109,459	14,941,770	33,035,233	3,459,330	1,557,570	2,136,948	2,957,100	3,233,000	69,413,699
	Daily average	593,648	498,059	734,597	115,311	51,939	71,231	98,570	107,400	2,380,656
December:	Month	17,784,738	15,047,103	31,810,359	3,432,061	1,590,051	2,167,554	3,118,663	3,233,000	68,231,999
	Daily average	573,765	485,713	702,560	110,721	51,321	69,598	100,602	107,355	2,202,646
1931—										
January:	Month	16,485,798	14,350,953	30,630,452	3,149,073	1,574,958	2,131,937	3,008,142	3,274,000	66,233,310
	Daily average	531,799	479,965	667,436	101,583	50,805	68,773	96,682	105,629	2,138,078
February:	Month	14,930,932	13,371,876	28,864,596	3,369,016	1,402,483	1,981,476	2,747,034	3,129,000	60,896,413
	Daily average	533,248	477,567	677,307	120,322	50,081	70,767	98,108	111,750	2,176,158
March:	Month	16,364,843	16,430,241	32,975,399	3,498,593	1,444,941	2,082,197	2,897,735	3,274,000	69,018,249
	Daily average	527,898	530,011	741,139	112,858	46,611	65,587	93,476	105,629	2,226,458
	Total 12 months	213,313,590	202,871,747	380,920,388	42,296,732	19,292,238	24,545,941	35,024,662	43,656,000	962,056,690